MERRIAM MOUNTAINS SPECIFIC PLAN

APPENDIX G

BIOLOGICAL TECHNICAL REPORT

GPA 04-06; SP 04-006; R04-013; VTM5381; S04-035, S04-036, S04-037, S04-038; Log No. 04-08-028; SCH No. 2004091166

for the

DRAFT ENVIRONMENTAL IMPACT REPORT

August 2007

Note: This appendix reflects project details current at the time the August 2007 Draft EIR was distributed for public review. As noted in the preface to the March 2009 Recirculated EIR, some project details and analysis have changed since that time and those details are reflected in the Recirculated EIR and appendices.

MERRIAM MOUNTAINS SPECIFIC PLAN

BIOLOGICAL TECHNICAL REPORT

June 2007

Prepared for:

NNP-Stonegate Merriam, LLC
10815 Rancho Bernardo Road, Suite 310
San Diego, CA 92127

Prepared by:

Pacific Southwest Biological Services, Inc.
Post Office Box 985
National City, CA 91951-0985

Michael U Evans
Director of Operations

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MERRIAM MOUNTAINS PROJECT,
SAN DIEGO COUNTY, CALIFORNIA

BIOLOGICAL TECHNICAL REPORT:
SUMMARY OF STUDIES AND IMPACT ANALYSIS

SP 04-006, R04-013, TM 5381, S 04-035, S 04-036, S 04-037, S 04-038, ER 04-08-028

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EXECUTIVE SUMMARY

The Merriam Mountains Specific Plan (SP) and implementing tentative maps and other entitlements (project) propose to develop a master-planned community integrating residential, commercial, recreational and open space land uses on 2327.0 acres. The Merriam SP would allow a maximum of 2700 dwelling units with an overall density of 1.16 dwelling units per acre on the 2,327 acre SPA. The project also includes a 1,192 ± acre Biological Open Space that would be integrated as a hard-line preserve into the Natural Communities Conservation Plan (NCCP) Subarea Plan of the draft North County Multiple Species Conservation Program (NCMSCP), presently under preparation. Additionally, the project includes a wildfire fuel management program that provides for fuel treatment zones ranging from 150 ft to 225 ft, depending on the predicted wind direction during high wind conditions.

The proposed project site includes major portions of the undeveloped north-central section of the Merriam Mountains, located adjacent to and east of U. S. Interstate Highway 15 (I-15), and west of Twin Oaks Valley Road to the west, generally between Deer Springs Road to the south and Lawrence Welk Drive to the north (see Figures 1 and 2).

From a regional and subregional perspective, the Merriam project site and the surrounding undeveloped portions of the Merriam Mountains forms a large block of largely undeveloped land (about 2,300 ± acres), adjacent to and east of another large undeveloped land form, the San Marcos Mountains. The draft North County Subarea Plan (May 17, 2006) labels the northern portion of the Merriam Mountains and the San Marcos Mountains as "Pre-negotiated (Hardlined) Take Authorized Areas."

The Merriam site includes a number of vegetation communities that are relatively common in north-inland San Diego County (see Section 1.4.2). Southern Mixed Chaparral (on granitic-derived soils) covers most of the site (2,156.6 acres or 92% of the entire site), while all the other communities or vegetation cover types, each amounting to 1% or less of the total

project area: Disturbed Habitat, Urban/Developed, Orchard, Intensive Agriculture, Diegan Sage Scrub, Mafic Southern Mixed Chaparral, Non-native Grassland, Freshwater Marsh, South Coast Live Oak Riparian Forest, Sycamore Alluvial Woodland, Southern Willow Scrub/Mulefat Scrub, Mule-fat Scrub, Southern Willow Scrub, Southern Willow Scrub/Tamarisk Scrub, Coast Live Oak Woodland, Eucalyptus Woodland and Non-vegetated channel.

The vast majority of the Southern Mixed Chaparral on the site has not burned in over 100 years (based on California Division of Forestry fire history maps) and this has resulted in a large contiguous and extremely dense stand of Southern Mixed Chaparral with low diversity of species and limited age-classes of plants. Terrestrial wildlife use favors the numerous dirt roads on the site that were originally placed to install and service the extensive water lines that were to be used for groves.

Relatively few sensitive plants occur on the site because of its geographic location and constituent soils (the site contains largely granitic-derived soils and tends to lack unique soils that tend to support sensitive plants). Three relatively low-sensitivity plants occur on the site: Summer-Holly (*Comarostaphylis diversifolia* ssp. *diversifolia*), Ramona Horkelia (*Horkelia truncata*) and Engelmann Oak (*Quercus engelmannii*).

Numbers of and types of sensitive fauna on the Merriam site are somewhat limited given the large size of the site; this is probably a result of the relatively low habitat diversity (see above). Identified sensitive fauna include the following: Northern Red-diamond Rattlesnake (*Crotalus ruber ruber*), San Diego Horned Lizard (*Phrynosoma coronatum blainvillei*), Belding's Orange-throated Whiptail (*Aspidoscelis hyperythrus beldingi*), Cooper's Hawk (*Accipiter cooperi*), a single pair of Coastal California Gnatcatchers (*Polioptila californica californica*) and San Diego Desert Woodrat (*Neotoma lepida intermedia*). There are historical records or undocumented reports of additional sensitive species on the site, including Burrowing Owl (*Athene cunicularia*) and Mountain Lion (*Felis* (*Puma*) *concolor*); neither of these two species appears to still utilize the site. Additionally California Thrasher (*Toxostoma redivivum*) occurs on the site and is a common chaparral species in San Diego County, although it is on the National Audubon Society's "Yellow List" of species to watch. The Southern Mule Deer (*Odocoileus hemionus*), a game species proposed as a Covered Species on the draft North County MSCP as a potentially important indicator of habitat health, may occur on the site in very limited numbers, presumably because of the prevalence of very dense chaparral that precludes entry by this species (no recent sign of this species was detected during the surveys, although very old droppings were observed).

The federally-listed Threatened Coastal California Gnatcatcher (Gnatcatcher) is the only listed Threatened or Endangered species present on the Merriam site. Extensive surveys performed on the site indicate that only a single pair of Gnatcatchers occupies the property, in an area near the north end of Mesa Rock Road, adjacent to I-15.

The draft NCMSCP regional habitat evaluation model shows the Merriam site as having a moderate value habitats, with smaller patches of high value habitats ("HEM" scores; see discussion below) in the northern, central and southern parts of the Merriam site, with smaller patches of very high habitat value, associated with patches of Coastal Sage Scrub vegetation (including the part of the ownership which falls into the San Marcos Mountains) and presumably a historic raptor nest in the east-central portion of the site. The habitat value map for the area outside the Merriam ownership shows the surrounding Intensive Agriculture or Urban areas surrounding the site except for the majority of the San Marcos Mountains, which was given a very high habitat value score.

The proposed project would directly impact about 1183 acres, including graded slopes, various fuel treatment areas, off-site road and utility improvements, semi-isolated undeveloped open space areas, natural park for residents and offsite roadway improvements along Deer Springs Road. These impacts are summarized in Section 3.1; note that an impact is defined as any development-related activity that would directly or indirectly modify the existing vegetation, and is not included in the Biological Open Space. The graded areas directly modify the underlying habitats, while various zones of fuel management activities would modify but not destroy much of the underlying habitats. Other areas, such as "Undeveloped Open Space" and the Natural Park area would retain a greater amount of habitat values. The project would directly impact the following habitats in the following manner (46 % of Southern Mixed Chaparral on site; 79% of Diegan Coastal Sage Scrub; 84 % of Non-native Grassland; 52% of South Coast Live Oak Riparian Forest; 100 % of Southern Willow Scrub/Mule Fat Scrub; and 100 % of Mule Fat Scrub (only 0.2 ac exists on the site). The majority of the remaining impacted vegetation cover types include Disturbed Habitat, Urban Developed, Orchard and Intensive Agriculture, with very limited biological resource value.

The project design approach attempted to avoid and minimize potentially significant impacts to biological resources; specific mitigation measures that are proposed project design elements or recommended to reduce potentially significant impacts to a less-than significant level are included below. The primary avoidance and project design element feature is for a Biological Open Space area covering approximately 1,192 acres; this preserve would be managed in perpetuity to conserve the on-site biological resources. Additional mitigation measures that involve purchase of conserved lands off-site to compensate for the loss of on-site habitats are recommended for some impacts involving, Diegan Coastal Sage Scrub and some wetland-related impacts (Oak Riparian Wetlands).

1.0 INTRODUCTION

1.1 PURPOSE OF THE REPORT

The purpose of this report is to document the biological resources identified as present or potentially present on the project site; identify potential biological resource impacts resulting from the proposed project; and recommend measures to avoid, minimize, and/or mitigate significant impacts consistent with federal, state and local rules and regulations including the California Environmental Quality Act (CEQA), and County of San Diego Multiple Species Conservation Program (MSCP) Subarea Plan, Resource Protection Ordinance (RPO) and Biological Mitigation Ordinance (BMO). It may also be used, in part, as the factual basis for future applications for permits and agreements for jurisdictional permits from federal and state agencies.

1.2 PROJECT LOCATION AND DESCRIPTION

1.2.1 Project Location

The Merriam Mountains Specific Plan area (Merriam SP, project site) consists of approximately 2,327 acres located within the north-central portion of the Merriam Mountains of northern San Diego County. The site is bounded by I-15 on the east, Deer Springs Road (County Road S12) on the south, and Twin Oaks Valley Road on the west, with a small portion of the western edge of the site traversed by Twin Oaks Valley Road, and the northeast corner of the site traversed by Lawrence Welk Drive. Gopher Canyon Road is located approximately one-half mile north of the site (see Figure 1). Thomas Brothers Coordinates: Page1088, Grid J/3. Map location of the site includes the following UTMs [NAD 83]: 487,903mE; 3,672770mN on the south, to 485,405mE; 3,677,609mN near the northern boundary of the project; western boundary: 482,877mE; 3,675,968mN and 486,648mE; 3,675,725mN on the eastern boundary. Elevation of the site ranges widely, from approximately 680 ft along Twin Oaks Valley Road in the west-central portion of the site to 1,752 ft at one of the central mountain tops. Figure 3 shows a visual overview of the project site, looking west.

1.2.2 Project Description Overview

The Merriam project consists of 2,327 acres of which 598 acres are proposed for development (including development pads and roads (538 acres plus 60 acres for secondary access roads) and approximately 1,729 acres are proposed for open space (1,192 acres of Biological Open Space and 537 acres of other open space, including natural parks and fuel modification) (see Figure 4). Within the development area, the project proposes to construct 2,700 homes, approximately 10 acres of commercial uses, and a variety of developed park uses.

A trail system is proposed within the development area and within portions of the proposed open space. Trails within proposed Biological Open Space would generally be confined to existing dirt trails.

The proposed development is a master-planned community consisting of five residential neighborhoods, and a 10-unit estate lot area in the extreme northern portion of the property. The project proposes construction of 1,153 single family detached units, 1,267 variable residential units, 270 multi-family units and 10 estate lots. Each residential neighborhood would have its own architectural theme, be landscaped consistent with an overall master landscape plan, and include common/shared open space and recreational facilities.

Proposed fuel modification would be consistent with a fire management plan prepared for the development. Fuel modification would not extend into proposed Biological Open Space. The plant palette for the fuel modification areas is included in the master landscape plan for the project and does not include exotic or invasive species.

Development would mainly be located in the southern half of the project site with the exception of the estate lots located in the northeastern corner adjacent to Lawrence Welk Court, an existing private road providing access to estate homes to the north. The total development area includes actual development pads, manufactured slopes and all fuel modification zones (and would be excluded from Biological Open Space areas).

Associated Road Elements

Access to the project is provided from Deer Springs Road at two locations – Merriam Mountains Parkway and Meadow Park Lane; and from Lawrence Welk Drive at one location. The southern primary entrances are Merriam Mountains Parkway and Meadow Park Lane. Merriam Mountains Parkway is planned as a four-lane median-divided road that provides access to Deer Springs Road in the southeast corner of the property near I-15. As Merriam Mountains Parkway traverses the project, it increases to a four-lane divided road and then to a two-lane roadway with a paved median suitable for use as a third lane in emergency situations. Meadow Park Lane will be a four-lane median-divided road where it intersects Deer Springs Road approximately 1.4 miles west of I-15. As Meadow Park Lane traverses the project it decreases to an undivided four-lane road. Lawrence Welk Lane provides access to the 10 estate homes in Bonsall, and to the northern portion of the SP area via a new secondary access road, Lawrence Welk Court. An additional gated emergency access to the site will be provided from Twin Oaks Valley Road at Camino Mayor.

Off-Site Roadway and Utility Improvements

The proposed project includes improvements to Deer Springs Road and at twelve existing off-site intersections (under Biological Resources Associated with Off-site Improvements) and shown in Figures 5, 6A, and 6B. Additionally, improvements along Deer Springs Road from I-15 to Twin Oaks Valley Road would be required.

The Deer Springs Road improvements would include widening the road to a four-lane Major Road from Twin Oaks Valley Road to I-15. In addition, eastbound and westbound auxiliary lanes would be provided along Deer Springs Road from Mesa Rock Road to the I-15 ramps. The design and alignment of the roadway is planned to avoid and minimize impacts to biological resources and would accommodate a potential future 6-lane alignment if determined by the County to be necessary as part of 2030 buildout forecasts for the North County Metropolitan Subregional Plan Area.

Establishment of water supply for the project would occur through the expansion/ extension of existing supply pipelines and reservoirs located within and adjacent to the project. Construction of two new water storage reservoirs would occur. A new 5.83 million gallon (MG) water storage tank would be built next to the existing 1.3 MG tank. A new 5.18 MG water storage tank will be constructed for the Deer Springs 1235 Zone. This tank will be built on a site within Neighborhood 1. The new Coogan tank will be fed by the existing Coogan Pump Station through the 16-inch pipeline that currently feeds the existing 1.3 MG Coogan tank. The new Deer Springs tank will be tied to the existing Deer Springs pump station on Deer Springs road with a new 10-inch main. To serve the 10 estate lots an 8-inch water line will be extended from Buckshot Canyon Road to Lawrence Welk Drive.

1.3 SURVEY METHODOLOGIES METHODS, DEFINITIONS AND SURVEY LIMITATIONS

1.3.1 Methods

Prior to the field visit, Pacific Southwest conducted a search of the California Department of Fish and Game's (CDFG) California Natural Diversity Data Base (CNDDB) for the USGS 7.5' Bonsall, Pala, San Marcos and Valley Center, California Topographic Quadrangles and various materials relating to the draft NCMSCP Plan. This search revealed several federal or state listed or County sensitive species, which may occur within the vicinity of the property (see Appendices 3 and 4). Pacific Southwest conducted biological field investigations of the project site in 2000-2004; additional site visits to address specific issues were made in 2005 and 2006. Pacific Southwest also reviewed recent aerial photographs of the proposed project site (2004).

Botanical Field Methods

Pacific Southwest principal botanist R. Mitchel Beauchamp initially surveyed the property for botanical resources, performed initial jurisdictional water/wetland delineations, and an Oak Tree Inventory and assessment in 2000, and performed additional directed botanical surveys in 2004; additional technical studies and the dates are summarized in Table 1. A cumulative checklist of plants observed during the surveys is included in Appendix 1. The vegetation was mapped directly on the topographic base, field verified and planometered directly via computer. This technique allowed a more accurate depiction of existing vegetation on the site as compared to the previous method of using smaller scale aerial photographs, transposed onto a large scale map of the project.

Field personnel in Table 1 include the following: R. Mitchel Beauchamp (RMB), Doug W. Allen (DWA), Jason H. Kurnow (JHK), Claude Edwards (CE), and Michael U. Evans (MUE).

Zoological Field Methods

A general zoological survey, with focused surveys for listed species, their habitat components and/or host plants were conducted by Pacific Southwest biologists Douglas W. Allen and Jason H. Kurnow on the property. Field methods consisted of walking slowly through the appropriate habitat while watching and listening for wildlife. "Pishing," a technique commonly used to attract the interest of passerines and draw them into view, was occasionally employed. Binoculars (8x40) were used to assist in the detection and identification of wildlife. Species presence was confirmed by visual observation and/or auditory detection, tracks, scats, bones, dens and burrows. Vegetation types were mapped in the field on a large-scale topographical map. Any sensitive species observed or detected on the property were also mapped.

Pacific Southwest biologist Douglas W. Allen surveyed the property for zoological resources and performed the Quino Checkerspot Butterfly (*Euphydryas editha quino*) (Quino) federal protocol survey in 2003. A summary of the Quino survey is included in this report. A complete report of the Quino survey is on file with the County of San Diego and the United States Fish and Wildlife Service (USFWS). The survey was conducted from early February through late April 2003 and included the peak of the 2003 Quino flight season for San Diego County. No adult Quino were detected or observed on the property during the survey. A complete checklist of fauna observed during all the surveys is included in Appendix 2.

Wildlife Movement Field Studies

As a subset of the general biological field work, additional qualitative focused studies were performed to identify and characterize existing wildlife movement patterns on the site. Prior to commencing this field work, Pacific Southwest analyzed existing aerial photographs and maps of the project site to identify areas to focus field investigations. Special attention was paid to access roads and canyons found throughout the property. Because of the dense chaparral cover over most of the site, access was limited to existing dirt roads, primarily on foot. Off-site areas were also investigated in order to determine the likelihood of wildlife use/movement across and outside the project boundary.

The field work for the wildlife trail use, focused on looking for scat, tracks, or any other sign of mammal use. Only qualitative observations were recorded, including general presence or absence of wildlife sign; no quantitative field data were collected. The mammals focused on were Coyote (*Canis latrans*), Gray Fox (*Urocyon cineroargenteus*), Bobcat (*Felis rufus*), Mule Deer and Mountain Lion (no tracks of the latter two species were identified). Areas where signs of mammal activities occurred were recorded and the corresponding location was noted on field maps. Individual canyons were also surveyed, where access allowed.

Each canyon surveyed was noted for its physical attributes relating to wildlife use. This included generally included such factors as steepness, vegetation density, proximity to other access points (i.e., access roads), and the kinds of habitat(s) existing within the canyon bottom. Photographs of local areas of the site were taken for future reference. Existing biological resources at possible access points to off-site locations on the south side of the property were examined. This was done by driving the extent of Lawrence Welk Drive, which paralleled the project. Any culverts, drainage pipes or other potential movement areas were focused on. Assessments were also made north, east and west of the northern-most project boundary along Lawrence Welk Lane. As vegetation found on these areas is adjacent to the property, the study focus was to see if this vegetation could assist in movement to off-site sources. When in contact with surrounding property owners, they were asked if they had seen any of the mammals referenced above.

Additionally, the defined off-site project improvements were examined as part of the general biological assessment; these areas included: improvements to Deer Springs Road, between I-15 and Sarver Lane; improvements or new water lines are also planned along Twin Oaks Valley Road and Deer Springs Road, and off-site road intersections for which the project may have to contribute the costs of expansion.

Wetlands Delineation Field Methods

Prior to field visits, Pacific Southwest reviewed previous vegetation maps, county-wide soils maps (Bowmen 1978) and aerial photographs of the study area to determine the location of potential Army Corps of Engineers (ACOE), California Department of Fish and Game (CDFG), and County Resource Protection Ordinance (RPO) wetlands. Fuscoe Engineering provided a 2003 large-scale (1 inch = 200 feet) air photo with topographic lines of the property to assist with the location and mapping in the field.

In July 2003, Pacific Southwest staff conducted five days of field visits to identify and map federal, state, and County RPO jurisdictional wetlands. The fieldwork covered the entire site accessible by foot and concentrated on potential wetland areas identified from the maps and photographs. Due to the dense vegetation and steepness of the slopes, some portions of the property were surveyed using binoculars to locate wetland vegetation. These areas were plotted on the large-scale air photos and analyzed in the office. Drainages and wetlands that were accessible and met the definitions of ACOE, CDFG, and County RPO wetlands were mapped in the field, on a large-scale map. Measurements (in feet) were taken that included lengths and widths, either from the ordinary high watermark and/or from bank to bank for drainages. The boundaries of wetland vegetation were outlined on the air photo in the field and measured in the field. Dominant wetland plant species were identified in the field. Vegetations/habitat types are based on the Holland Codes (1986) or Holland Codes, as modified by Oberbauer, (1996). Erosional features that had no bed or bank or ordinary high water mark were not classified as drainages and were not mapped for this study. Photographs were taken of several of the wetland and drainages. Field data collected by Pacific Southwest was sent to Dudek and Associates, Inc. to be entered into a GIS (Geographic Information System) database. Dudek produced a summary wetland map for the Merriam Mountain project. A brief field visit to verify jurisdictional status was also made on 17 February 2005.

Field Schedule Summary and Field Visit Conditions

Pacific Southwest biologists visited the Merriam site 36 times (see Table 1) as part of the general biological assessment, vegetation mapping, two California Gnatcatcher federal protocol surveys (4/16/02-5/16/02), a focused oak tree inventory of the southeastern corner of the site (9/8/03), a focused wildlife corridor assessment (7/7/03-7/9/03), mapping of jurisdictional areas (8/4/03-8/19/03), a second series of Gnatcatcher habitat assessments (4/14/04) and protocol surveys (4/23/04-5/7/04) and focused Gnatcatcher habitat assessments of the Merriam sites and nearby areas, a focused sensitive plants survey and a directed search for Harbison's Dun Skipper butterfly, *Euphyes vestris harbisoni* (5/30/04-6/30/04). The dates and details of field conditions during focused studies and/or site visits are listed in Table 1 and the appropriate focused-study reports.

1.3.2 Survey Limitations

Complete biological inventories of sites often require a large number of field hours during different seasons as well as nocturnal sampling for some animal groups, such as small mammals. Depending on the season during which the field survey is conducted; amphibians, snakes, many mammals, owls and other nocturnal birds, and annual plants are groups that can be difficult to inventory. Many groups of vertebrates are difficult to detect during short-term field surveys. Some, such as migratory or nomadic birds, may be absent from the site while the fieldwork is being conducted. Species that are declining or have naturally patchy patterns of distribution may not be present in areas of what appears to be suitable habitats. However, through literature review, study of museum records, and knowledge of the habitat requirements and distribution patterns of individual species, the probability of a given species being present on a site can often be quite accurately predicted. In spite of the large size of the Merriam project site, the 36 visits to the site by Pacific Southwest biologists have given a thorough chance to adequately assess the biological resources of the site.

1.3.3 Definitions

Vegetation Communities

Vegetation habitats or communities are assemblages of plant species that usually coexist in the same area. The classification of vegetation communities is based upon the life form of the dominant species within that community and the associated flora. The nomenclature for vegetation communities follows Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986) as modified by Oberbauer (Oberbauer 1996).

Wildlife Habitats

Wildlife habitats differ from vegetation communities in that a wildlife habitat may contain several vegetation communities that are similar in structure but different in the plant species composition, location and soil substrate. This distinction becomes an important factor when assessing the sensitivity of a particular wildlife habitat. In addition, the interaction of various wildlife species occurs between many different wildlife habitats. This becomes more evident where these habitats overlap in areas known as ecotones. These ecotones support a combination of the species from two or more adjoining habitats that generally increases the number and diversity of species within these areas. Wildlife habitats encountered on the project site approximate the vegetation communities discussed below.

Species Nomenclature

The scientific nomenclature used in this report is from the following standard references: vascular plants (Hickman 1993, Beauchamp 1986, Munz 1974); vegetation communities (Holland 1986, Holland and Keil 1989); wildlife habitats (Mayer *et al*. 1988); butterflies: (Emmel and Emmel 1973); amphibians and reptiles (Jennings 1983, Stebbins 1984, Crother 2000); birds (American Ornithologists' Union 1998); and mammals (Jameson and Peeters 1988, Ingles 1995).

1.4 ENVIRONMENTAL SETTING (EXISTING CONDITIONS)

1.4.1 Regional Context and Physical Characteristics of the Site

In a regional context, the project site is located in north-central portion of unincorporated San Diego County, approximately 40 miles from downtown San Diego, 20 miles east of the Pacific Ocean and just north of the cities of Escondido and San Marcos. The eastern and northern area of the site is located within the San Luis Rey-Escondido watershed, the largest hydrological unit in the San Diego region. The southern area is located in the Carlsbad Hydrologic Unit and San Marcos Hydrological Area. The project site is also within the coastal sub-province of the Peninsular Ranges Geomorphic Province. Primary habitat types in this area of San Diego County historically generally consisted of chaparral (Southern Mixed and other sub-types), oak woodlands, riparian woodlands, and relatively small, scattered stands of sage scrub prior to European settlement. Today, agricultural uses (primarily groves) and residential development dominate the land cover types.

Unique features in the project subregion of San Diego County include the San Marcos Mountains which are located northwest of the project site, and the Merriam Mountains which include the project site. The San Marcos Mountains are biologically significant due to their undeveloped nature, potential to support mammal species, and the presence of special-status rare plant species such as Southern Mountain Misery. The Merriam Mountains are biogeographically significant due to the undeveloped northern portion of the mountains (the southern one-half is covered with groves) and the potential to form a major block of conserved habitat in the proposed draft North County MSCP Subarea Plan.

The Merriam Mountains are shown on the Draft North County MSCP Subarea Working Draft Map with an asterisk indicating, *"Properties currently being negotiated for hardline preserve."* Additionally, the Merriam Mountains contain undeveloped steep slopes and rock outcroppings that are visually prominent from the I-15 scenic corridor. Moosa Canyon, the valley occupied by the I-15, runs from the northern to northeastern vicinity of the site. In addition, the area is a tributary to the San Luis Rey River (to the north) through the South Fork of

Gopher Canyon. The San Luis Rey River is an important riparian corridor containing woodland vegetation as well as rare and protected species. Tributaries to the San Marcos Creek are also located in the vicinity and flow southwest towards Batiquitos Lagoon.

The project site occupies most of the northern one-third to one-half the length of the Merriam Mountains. Topographically, the Merriam Mountains consist of a narrow chain of hills or low mountains, running north to south. These mountains originate near the northern end of the urban parts of the city of Escondido (near the San Diego Water Authority flume, north of Golden Circle Drive) and continue some distance beyond the northern boundary of the property to the first major drainage cutting through them at Moosa Canyon Road. The eastern edge of the mountains is defined by I-15 and the South Fork of Moosa Canyon; the western limit of the mountains is formed by the South Fork of Gopher Canyon and Twin Oaks Valley Road. The project site is specifically located in the north-central portion of Merriam Mountains, bounded on the south by Deer Springs Road which separates the southern one-third of the Merriam Mountains from the northern parts.

Within the proposed project boundaries, Jurassic-Triassic Santiago Peak Metavolcanic rocks dominate the northern one-third while the southern two-thirds are dominated by Mesozoic Granodiorite. Metavolcanic rocks are known to have occasional clay deposits that may support sensitive plant species. Exposure of both rock types, but particularly the Granodiorite, has resulted in spectacular promontories on several of the minor peaks that cap the ridge of this small mountain range. The property contains steeply incised valleys, trending north to south, with flatter areas on some of the mountain summits. The elevational range of the project area ranges from 1,752 to 680 feet above mean sea level with several minor valleys with rather level contours.

Along the eastern boundary of the site, the South Fork of Gopher Canyon, the area is mapped as Upper Jurassic marine formation dominated by gabbro rock underlaiment. In the southern portion of the project site, but largely off-site toward I-15, several areas of cliff-like rock exposures are evident (typified by Lusardi Mountain). Within the site, the inner "meadow's" geology involves alluvial material of recent origin. The soils of the site are associated with the underlying rocks and sediments and are mapped as Cieneba for 90% of the site (Acid igneous rock, and Cieneba very rocky course sandy loam), with Vista and Ramona series at the north and south end respectively. Placentia, Wyman and Las Posas soils are limited on the project area to the southeastern Deer Springs corner (see Figure 7). The San Marcos Mountains are Mesozoic basic intrusive rocks (gabbroic) in origin and form markedly different soils from the granitic rocks forming the Merriam Mountains. Gabbro-derived soils include the Las Posas series. Two small patches of Las Posas soils are reported from the southeastern corner of the project site (see map), including LpD2 (Las Posas fine sandy loam, 9-15% slopes, eroded) and LpE2 (Las Posas fine sandy loam, 15-30% slopes, eroded). Additionally, a small segment of

LrE (Las Posas stony fine sandy loam, 9-30% slopes) exists adjacent to the east side of Twin Oaks Valley Road, across from the abandoned quarry, and west of the aqueduct. These areas are identified on the project vegetation map, although when inspected by R. M. Beauchamp, a botanist very familiar with local soil endemics, gabbro/mafic endemic plants were not associated with the mapped mafic soil areas.

Surrounding Land Uses and On-site Setting

Surrounding land uses to the north, west, and south of the project site include avocado groves and large-lot single-family development. Many of the prominent ridges surrounding the site are occupied by existing homes. The city of Oceanside Wastewater Department owns approximately 180 acres to the north, and there is a large aggregate mining operation in Gopher Canyon. The area to the northwest of the project site generally includes vacant lands with native chaparral vegetation; much of the off-site area along western boundary is currently a patchwork of chaparral and groves with homes. The extreme west-central portion of the site includes a stretch of Twin Oaks Valley Road and continues into the east-central portion of the San Marcos Mountains. The off-site area surrounding the San Marcos Mountains portion of the Merriam ownership includes an unimproved but subdivided area that was previously planted with groves, but reverting to native shrubland vegetation.

To the south, the site is adjacent to a checkerboard of chaparral-covered shrublands and various agricultural and large-lot residential uses. The site is generally set back from Deer Springs Road to the south, generally with intervening residential or undeveloped lands. Southwest of the site is the Golden Door Spa and Resort and estate development along the city/county border of San Marcos.

Interstate Highway 15 forms the eastern boundary of the site, with some intervening undeveloped areas that are presumably part of the CalTrans right-of-way. Lawrence Welk Village and the community of Hidden Meadows lie adjacent to and east of I-15.

The project site is substantially undeveloped. A previously permitted, but now abandoned, quarry site lies just west of Twin Oaks Valley Road, where the Merriam ownership continues across the road to include a segment of the San Marcos Mountains. An abandoned landing strip has resulted in a level, yet rutted area in the north central region of the site. Dirt roads and trails traverse much of the site; these roads were apparently constructed and maintained to serve the existing agricultural water lines. The water system was installed along the main spine of the site with two water tanks on the site.

1.4.2 Habitat Types/Vegetation Communities

The Merriam site contains representative vegetation associations and wildlife habitats common to north-central San Diego County. Refer to Figure 8 and Table 2 for a summary of vegetation types found on the site.

Eucalyptus Woodland (EW) (11100) (1.5 acres; <1%)

Scattered eucalyptus trees exist on the site, concentrated where Meadow Park Lane would join the site in the extreme southeastern part of the project. Scattered and isolated eucalyptus trees exist elsewhere on the site, but were not individually mapped.

Disturbed Habitat (DH) (11300) (27.3 Acres; 1%)

This category consists of permanently disturbed land-cover currently existing on the site and includes small areas, including adjacent to the north end of Mesa Rock Road, the defunct quarry site adjacent to Twin Oaks Valley Road, and limited areas adjacent to the abandoned aircraft landing strip in the northwest quadrant of the site.

Urban/Developed (UD) (12000) (13.0 acres; <1%)

Developed areas support no native vegetation and may be additionally characterized by the presence of man-made structures such as buildings or roads. The level of soil disturbance is such that only the most ruderal plant species occur. Urban/Developed lands occur in the southern portion of the site; near the proposed entrance area.

Orchard (18100) (2.4 acres; <1%)

Small areas in the southwest and northwest quadrant of the site contain apparently non-commercial orchard crops, primarily as a result of incursion from existing adjacent agricultural uses.

Intensive Agriculture (18200) (4.9 acres; <1%)

A small area of avocado groves occurs within the Merriam site, located in the lower southwest corner of the property; this may have been an incursion of agricultural by an adjacent agricultural operation.

Diegan Coastal Sage Scrub (DCSS) (32500) (28.6 acres; 1%)

A few relatively limited areas of the site are covered with the open Diegan Coastal Sage Scrub vegetation. The most extensive patch of this vegetation occurs on the south-facing slopes of the southern valley. At the northwestern corner of the site, those areas not cleared by the aqueduct or for the avocado groves have an association of California Sage Brush (*Artemisia californica*) and Flat-top Buckwheat (*Eriogonum fasciculatum*). The northern-most extension of the site also has a Sage Scrub cover, but this appears to be due to prior clearing of the chaparral vegetation and should be better considered as Successional Sage Scrub. Sage Scrub vegetation is considered sensitive because of its conversion to other uses in southern California and because it supports a number of sensitive species of wildlife.

Southern Mixed Chaparral (SMC-Granitic Type) (37121) (2,156.6 acres; ±92%)

The site is largely covered by Southern Mixed Chaparral that varies from an almost pure "Chamisal" of Chamise (*Adenostoma fasciculatum*) to a Mountain-Mahogany-dominated type (*Cercocarpus minutiflorus*) in the deeper soil inner valleys. The indicators of the more widespread Southern Mixed Chaparral on the site are: Chamise, Mission Manzanita (*Xylococcus bicolor*), Black Sage (*Salvia mellifera*) and Ramona Wild-lilac (*Ceanothus tomentosus*). The extent of exposure, soil depth and slope affect the extent of the diversity of the chaparral on the site. One major characteristic of the onsite Chaparral vegetation is its level of maturity. This Mediterranean-climate associated vegetation is highly correlated with periodic fires that recycle the surface load of organic material and nutrients back into a nutrient-poor soil system. The fires also allow the cycling of a major suite of annual native wildflowers and stimulate the re-growth from subsurface specialized stems of the major shrubs on the region. The onsite chaparral is ripe for a wildfire because of the lack of recent fires. Separation of proposed new land uses from existing chaparral areas (involving fuel management zones) will be a key issue in the development review process. Isolated trees of Coast Live Oak (*Quercus agrifolia*) and small stands of Scrub Oak (*Quercus berberidifolia*) occur in several areas mapped as Southern Mixed Chaparral, but do not constitute distinct oak woodlands.

Mafic Chaparral (SMC-Mafic Type) (37122) (57.4 Acres)

Chaparral vegetation on Santiago Peak metavolcanic rock is sometimes classified as Mafic Chaparral, particularly where Las Posas and other clay-soils (see soils map, Figure 7) may support certain rare plants (see discussion of sensitive plants below and in Appendix 4). The primary area mapped as Las Posas soils is on the west side of Twin Oaks Valley Road, part of the San Marcos Mountains. Vegetation in this area was difficult to define because of the evidence of prior agriculture and partial recovery of the area with elements of Coastal Sage

Scrub species. It is very likely that this area was originally Mafic Chaparral prior to agricultural uses. The listed areal extent of the potential Mafic Chaparral is the area west of Twin Oaks Valley Road; another area of about 0.3 acre in the extreme northwest portion of the site is also be classifiable as Mafic Chaparral. The total area given for this vegetation type is not necessarily reflected in the plant species or vegetation type observed in the field because of the age and uniformity of the vegetation. An additional area of Las Posas soils (fine sandy loam vs. stony fine sandy loam) occurs at the north end of Mesa Rock Road, but did not support Mafic Chaparral plants and was not so classified.

These areas with Las Posas soils often support endemic plants that have either evolved to do well on these nutrient-poor soils, or can out-compete other plants and thrive on such soils. The mapped Las Posas soils areas were closely examined and did not support sensitive plants.

Non-native Grassland (NNG) (42200) (23.2 acres; <1%)

This vegetation is primarily located in an area termed the linear "meadow" (north of Sarver Lane) is not biologically a meadow, but is an open field of non-native grasses and forbs, largely Ripgutgrass (*Bromus diandrus*). Within the site, the inner meadow, largely covered by weedy non-native grasses, and is surrounded by a perimeter dirt road and has another dirt road diagonally crossing it from southwest to northeast. Additionally, there are several areas used for informal dirt-bike tracks within the grassland area. The predominant plants vary on the season, sometime showing extensive Black Mustard (*Brassica nigra*) stands. Given its coverage in the only very flat area on the project site, it appears to have been used for pasture of crop lands, probably over the past 75+ years. Although Annual Grasslands are non-native, wildlife agencies consider them valuable as foraging habitat for a variety of raptorial birds such as hawks and eagles.

Freshwater Marsh (FM) (52410) (0.1 acre; <1%)

A small amount of Freshwater Marsh habitat exists in the Twin Oaks Valley Creek, west of and adjacent to Twin Oaks Valley Road, in the west-central portion of the site. This area is dominated by cattails, but shows evidence of occasional channel clearing (perhaps for mosquito control).

South Coast Live Oak Riparian Forest (SCLORF) (61310) (2.3 acres; >1%)

Riparian Forest onsite, consist largely of Black Willow (*Salix gooddingii*) and Arroyo Willow (*S. lasiolepis*), with occasional Coast Live Oaks. The largest extent of this vegetation on site is in the bottom of the eastern central canyon, and also occurs just off-site along the creek, south of Deer Springs Road. Riparian Forest runs off the site from the southern valley and is

dominated by Coast Live Oaks. Riparian habitats of any kind are usually considered by wildlife agencies to have very high wildlife value for the cover, nesting habitat and food sources this habitat provides.

Sycamore Alluvial Woodland (SAW) (62100) (1.6 acres; <1%)

This type of riparian woodland vegetation is mixture of California Sycamores (*Platanus racemosa*), with scattered Coast Live Oaks and several willow species (*Salix* sp.) that occurs in a narrow canyon opening up adjacent to the west I-15 in the extreme north-east part of the Merriam site. The extensive Sycamores in this area make it one of the two major riparian woodland areas on the site, with potentially high wildlife value. This area is within the Biological Open Space area of the proposed project.

Southern Willow Scrub/Mule-Fat Scrub (SWS) (63300) (0.3 acre; <1%)

This generalized type of Riparian Scrub vegetation forms a scrubby streamside thicket including willows and Mule-fat (*Baccharis salicifolia*), located along Twin Oaks Valley Road in the stream in the south fork of Gopher Canyon.

Mule-fat Scrub (MS) (63310) (0.2 acre; <1%)

This vegetation is a tall, herbaceous riparian scrub strongly dominated by Baccharis (Holland, 1986). On the Merriam site, small drainage channels in various areas with occasional Mule-fat shrubs occur, including drainages associated with the southeastern central valley and the graded area of the defunct aircraft landing strip.

Southern Willow Scrub (SWS) (63320) (2.6 acres; <1%)

This vegetation type is fairly typical of Holland's (1986) Southern Willow Scrub, described as "dense, broad-leafed, winter-deciduous riparian thickets dominated by several (willow species with scattered emergent cottonwoods [*Populus fremontii*] and sycamores). This vegetation occurs along the streamside in the South Fork of Gopher Canyon, adjacent to Twin Oaks Valley Road.

Southern Willow Scrub/Tamarisk Scrub (SWS/TS) (63320) (0.6 acre; <1%)

A small amount of this habitat exists in a previously graded area adjacent to the abandoned aircraft landing area in the northwest quadrant of the site. The topography of this area allows rainwater to pond and promotes this artificial wetland-like habitat, consisting of scattered willows and Tamarisk.

Coast Live Oak Woodland (CLOW) (71160) (4.2 acres; <1%)

The Deer Springs area at the southeastern corner of the site has a mature stand of Coast Live Oak and occasional Engelmann Oak. The area was the site of a prior residence, so the under story is largely disturbed and recruitment or new growth of young trees has been arrested by the presence of the weedy under story. Coast Live Oaks also occur scattered about the site, especially as part of the Chaparral vegetation on protected north-facing slopes, but the principal mapped unit of Oak Woodland lies only at this southeastern corner and the following site. The drainage that flows out of the southern valley has Riparian Oak Woodland that differs from the savannah-type Oak Woodland at the southern area. Oak woodland habitats are generally considered of high value because of their value to diverse and abundant wildlife.

1.4.3 Sensitive Vegetation/Habitats

The County Resource Protection Ordinance (RPO) protects "sensitive Habitat Lands" (SHL), which includes "Unique Vegetation Communities," defined as:

> *"Unique vegetation community" refers to associations of plant species which are rare or substantially depleted due to development. These may contain rare or endangered species, but other species may be included because they are unusual or limited due to a number of factors, for example: (a) they are only found in the San Diego region; (b) they are a local representative of a species or association of species not generally found in San Diego County; or (c) they are outstanding examples of the community type as identified by the California Department of Fish and Game listing of community associations.*

The Merriam site does not contain any Unique Vegetation communities as defined by the RPO; all of the vegetation types found on Merriam are found elsewhere in San Diego County and still considered relatively common and widespread, although some, including Diegan Coastal Sage Scrub, Coast Live Woodland and Willow Riparian Woodland are declining in southern California and considered important wildlife habitats.

Additional vegetation types found on the site are generally considered "sensitive" by virtue of their wetland association or potential high value as wildlife habitat: Non-native Grassland, Mafic Southern Mixed Chaparral, Freshwater Marsh, South Coast Live Oak Riparian Forest, Sycamore Alluvial Woodland, Southern Willow Scrub/Mule-Fat Scrub, and Southern Willow Scrub. Non-native Grassland is considered of potentially value to wildlife because it can serve as important foraging habitat for raptors and other open-field birds; the other habitats listed are sensitive because of their dependence on water, higher habitat diversity, and higher wildlife habitat value.

1.4.4 Flora (Plants)

The flora observed on the site over the past two decades totals 236 plant taxa (see Appendix 1). Of these 52 (22%, a relatively small percent for southern California) are non-native plants associated with the disturbed portions of the site. These disturbed areas occur along the southwestern corner of the site as well as in the southern valley area that appears to have been cultivated in the past. The native component of the site flora is representative of chaparral-dominated foothill situations in San Diego County. Sensitive endemics of the region, including Ramona Horkelia, and more widespread sensitive species including Engelmann Oak and Summer-Holly occur on the site as part of their more widespread distribution in the region (see Sensitive Plant discussion, below). The preponderance of granitic rocks and granite-derived soils largely precludes some of the other endemics known from the region, such as Parry's Tetracoccus and others that are discussed in Appendix 5 and below.

1.4.5 Sensitive Plant Species

A review of sensitive plants reported to the CNDDB for the USGS 7.5' San Marcos quadrangle and the four adjacent quadrangles, as well as the County sensitive species of plants are summarized in Appendix 5. Of the 27 species analyzed in Appendix 5, only Summer-Holly (*Comarostaphylos diversifolia* ssp. d*iversifolia*), Ramona Horkelia (*Horkelia truncata*), and Engelmann Oak were found on the site (see individual species discussions below and Figure 8).

Summer-Holly (*Comarostaphylos diversifolia* ssp. *diversifolia*) (CNPS List 1B/RED 2-2-2)

This species is wide-spread but localized in San Diego County, ranging from Mount Whitney and Rancho Santa Fe, Peñasquitos Canyon, San Marcos Mountains, Iron Mountain and Otay Mountain (Beauchamp 1986). This chaparral species is occasionally found on protected, north-facing and east-facing slopes of the Merriam Mountains. The plants are more abundant in the northern portion of the project area and appear to constitute a component of the chaparral habitat on site. Small numbers of this species were also located in the San Marcos Mountains. Although 17 loci (or concentrations) of this species were mapped during the botanical field assessment, it is likely that the species is also found in the chaparral habitat in inaccessible portions of the site.

Conservation Implications: Summer-Holly is not a federally or state-listed species, but it is a Group A-list species on the County of San Diego Sensitive Plant List (March 2001). County A-list plants are defined as "Plants rare, threatened or endangered in California and elsewhere."

The presence of the species on the Merriam site has potential implications under the County RPO definition of "Sensitive Habitat Lands: defined as "Land which supports unique

vegetation communities, or the habitats of rare or endangered species or sub-species of animals or plants as defined by Section 15380 of the State California Environmental Quality Act (CEQA) Guidelines (14 Cal. Admin. Code Section 15000 et seq.). "Sensitive Habitat Lands" includes the area which is necessary to support a viable population of any of the above species in perpetuity, or which is critical to the proper functioning of a balanced natural ecosystem or which serves as a functioning wildlife corridor." However, Summer-Holly appears wide-spread and relatively common on the Merriam site.

Ramona Horkelia (*Horkelia truncata*) (CNPS List 1B/RED 3-1-2)

A single location with about six individuals of this perennial herb was located in the southeastern portion of the site. This species is often associated with gabbro-derived soils, which do not occur on the southeastern portion of the Merriam site. This species is characterized as being "...infrequent, on dry slopes; foothill, 600-1200 m…", at sites including Roblar Grade, Black Mountain-Lusardi; Mesa Grande; El Cajon Mountain; Ramona; Baron Valley; McGinty Mountain; Lawson Peak: and Lawson Valley (Beauchamp 1986). It was searched for extensively on the west-central portions of the Merriam ownership lands in the San Marcos Mountains (where Las Posas soils and Mafic Chaparral occur), but not found.

Conservation Implications: Ramona Horkelia is not a federally or state-listed species, but it is a Group A-list species on the county of San Diego Sensitive Plant List (March 2001). County A-list plants are defined as "Plants rare, threatened or endangered in California and elsewhere." The presence of the species on the Merriam site has potential implications under the County RPO definition of "Sensitive Habitat Lands: defined as "Land which supports unique vegetation communities, or the habitats of rare or endangered species or sub-species of animals or plants as defined by Section 15380 of the State California Environmental Quality Act (CEQA) Guidelines (14 Cal. Admin. Code Section 15000 *et seq*.). "Sensitive Habitat Lands" includes the area which is necessary to support a viable population of any of the above species in perpetuity, or which is critical to the proper functioning of a balanced natural ecosystem or which serves as a functioning wildlife corridor." However the location with six individuals does not constitute a population of Ramona Horkelia on the Merriam site nor does it represent a viable population of the species in perpetuity. The species undoubtedly does occur on gabbro soils in the San Marcos Mountains to the west, although not discovered on the Merriam ownership within those mountains.

Engelmann Oak (*Quercus engelmannii*) (CNPS List 4/RED 1-2-2)

Three Engelmann Oaks occur with the Southern Oak Woodland at the southern corner of the site. This species is characterized by Beauchamp (1986) as "Frequent, in canyons and on open slopes; foothill and coastal, below 1300m: e.g. Santa Margarita Mountains; Fallbrook;

Mesa Grande; Volcan Mountains; San Felipe; Lost Valley; Banner; Descanso; Bernardo; Dulzura, El Nido; Alpine; Buckman Spring."

Conservation Implications: Engelmann Oak is not a federally or state-listed species, but it is a Group D-list species on the county of San Diego Sensitive Plant List (March 2001). County D-list plants are defined as "Plants of limited distribution and are uncommon, but not presently rare or endangered."

1.4.6 Fauna (Animals)

A complete list of all the fauna observed in contained in Appendix 6; the following summary briefly addresses the major faunal groups on the site. Figure 9 shows existing wildlife movement in the project vicinity.

Invertebrates/Butterflies

Ten species of butterflies were observed on the project site; all the species observed are typical for the area and habitats found on the site.

Amphibians and Reptiles

One amphibian was observed on the site, about half a dozen young of the year Western Toads (*Bufo boreas*), in a damp culvert under a dirt road in proposed Neighborhood 2. Because the majority of the surveys were carried out in extremely low rainfall years, few other amphibians were surface active none were observed during the surveys. It is likely that other common amphibians exist on the site, including such species as the California Slender Salamander (*Batrachoseps attenuatus*) and Pacific Chorus Frog (*Pseudacris regilla*), particularly in the two riparian canyons planned for preservation on the east and west sides of the site.

Seven species of lizards were observed on the site; all of the observed are common and wide-spread in the coastal foothills of San Diego County. Two snake species were observed, although undoubtedly several more species occur on the site.

Birds

Forty-two bird species were observed during the numerous field visits to the site; all of these species, except for the Coastal California Gnatcatcher and Red-shoulder hawk, are common species in the north San Diego County inland habitats found on the site. The relatively low avian diversity of the site is probably the result of low habitat diversity on the site (almost 95 percent Southern Mixed Chaparral vegetation) and because the majority of the site has not burned in over 100 years.

Due to the dominance of chaparral vegetation on the site, most of the wildlife is associated with that rather dense plant association. The relative lack of open field habitat largely restricts foraging use of the site by large raptors, though there are potential nesting or roosting sites. No raptor nest sites were observed during the various surveys but the rocky eastern escarpments (eastern area of Lusardi Mountain) probably provide potential nesting habitat for raptors. Occasional Red-shouldered Hawks (*Buteo lineatus*) and Red-tailed Hawks (*Buteo jamaicensis*) were noted during the numerous field visits to the site. While the Red-shouldered Hawk was once thought to be declining in southern California, it is now considered a common nesting species in urban canyons in San Diego County. Unitt (2004) indicates this species is not in trouble in San Diego County and has substantially increased in the region with urbanization (page 165): "From 1954 to 1973 the San Diego Christmas bird count averaged 3.1 Red-shouldered Hawks; from 1997 to 2002 it averaged 25.7. When expressed on the basis of birds per party-hour the factor of increase was 6.8. …the Red-shouldered Hawk has become one of San Diego County's most successful urban adaptors. Furthermore, the Red-shouldered Hawk is not on the California Department of Fish and Game list of Special Animals (CDFG 2002).

Mammals

During the field investigations for this site, ten mammal species were recorded; all ten species are considered common throughout the inland foothills of north San Diego County. Three observations of Merriam's Chipmunk (*Eutamias merriami*) were made in the northern and southern parts of the site. This species is more commonly associated with montane habitats with conifers but is also known from chaparral habitats in the foothills of northwest San Diego County. One mammal of note, although not observed or detected during recent field surveys, Mountain Lion has utilized some of the site in the past.

Although no trapping was performed, small and medium sized mammals are probably fairly common on the site because they would be able to move through the brush with ease. Typical habitats used by bats include open areas for foraging (almost all habitats) and rock and tree crevices, caves, mines and other man-made structures used for daytime and maternity roosts for bats. The many rock out-crops, including the abandoned quarry on the western side of the site, would provide habitat for several species of bats. The nearby presence of agricultural activities would also support bat populations to some degree. Deer use of the site is apparently very low (no tracks were observed, although old scat was observed once), due to the senescent nature of the vegetation and relative lack of trails about the site. Coyote scat was observed commonly about the site; Gray Fox scat was observed less frequently. Bobcat use of the site is presumed to occur but no tracks were observed to confirm the level of activity.

1.4.7 Sensitive Fauna (Animal) Species

A review of sensitive fauna reported to the CNDDB for the USGS 7.5′ San Marcos quadrangle and the four adjacent quadrangles, as well as the proposed North County Covered Species of fauna are summarized in Appendix 6. Review of Appendix 6 indicates that of the 71 species recorded in the general project subregion, 37 species area unlikely to occur and 9 species were detected during the field assessments.

The species detected include the following: Northern Red-diamond Rattlesnake, San Diego Horned Lizard, Belding's Orange-throated Whiptail, Coastal Whiptail, Coastal California Gnatcatcher, California Thrasher, San Diego Desert Woodrat, and limited evidence of some use by Southern Mule Deer.

The following species may occur on the site, but have not been recorded: Coastal Rosy Boa, Coast Patch-nosed Snake, Two-striped Gartersnake, Sharp-shinned Hawk, Western Bluebird, Yellow Warbler, Yellow-breasted Chat, Southern California Rufous-crowned Sparrow, Bell's Sage Sparrow, Western Red Bat, San Diego Black-tailed Jackrabbit, and Dulzura Pocket Mouse. In addition, Southwestern Willow Flycatcher, Loggerhead Shrike, and Least Bell's Vireo could occur in the project area, however, the potential would be considered very low.

The following species probably do not occur on the site (see Appendix 6 for specific criteria and scientific names), but occurrence has not been ruled out: Southwestern Willow Flycatcher, Loggerhead Shrike, and Least Bell's Vireo (none would occur in areas proposed for development).

A number of special status species have been ruled out as species potentially inhabiting the site. The potential for the Arroyo Toad (*Bufo californicus*) is very low because no slow-moving streams that could support breeding habitats for the species occur on the site or within 1 km of the site. The potential for Hermes Copper (*Hermelcycaena hermes*) is very low. While its larval host plant, Spiny Redberry (*Rhamnus crocea*), occurs on the site in small numbers in a variety of locations on the Merriam site, potential adult roosting/foraging areas for the species are scarce to non-existent. Directed searches during the flight period for this species were negative. This species typically occurs in areas where the host plant and extensive nectaring plants occur in fairly close proximity (M. Klein, pers. comm.), an uncommon circumstance within the Merriam site. The potential for Harbison's Dun Skipper is very low; while the larval form of this species is dependent on San Diego Sedge, *Carex spissa*, which does occur on the Merriam site in the drainage along Twin Oaks Valley Road, directed searches during the species' flight season were negative as were searches to detect larva of this species using the Carex plants on site.

The potential for Golden Eagle (*Aquila chrysaetos*) is very low. While the site contains an historic nest site for this species on the prominent high rock outcrops in the east-central portion of the site, over-looking I-15, no Golden Eagles have been observed by Pacific Southwest biologists or reported by others for many years. Unitt (1984) cites a study by Dixon (1937), who mapped territories of Golden Eagles in the northwestern part of San Diego County and estimated a territory size of 36 square miles per pair. Unitt (1984) further states: "The distribution of breeding Golden Eagles in the foothill, mountain, and desert zones has changed little through history, but the territories of about 12 pairs in the coastal lowland have been eliminated by urbanization, agricultural development, and human disturbance. This represents a decline of about 23% in the county population [in 1984]. Most of this loss has occurred since 1965, and further decreases can be expected in the future, particularly if development of new avocado orchards continues in the rugged hills of northwestern San Diego County, Golden Eagles now nest near the coast only in Camp Pendleton; further south, Lake Hodges, the Rancho Peñasquitos area, and San Miguel Mountain mark the limits of their breeding range in 1981." The abandoned historic Golden Eagle nest site on Merriam appears well below the nearest mountain peak, on the north-east facing slope, over-looking Interstate 15. Eagles typically nest in protected cliffs, outcrops, or tall trees where they can be safe from terrestrial predators and have a broad view of potential foraging areas from the nest site area. The historic nest site on the northeast-facing slope of the Merriam Mountains appears to have a broad view of Interstate 15 and once open areas east of I-15, areas now occupied by the 8-lanes of freeways and residential developments like Lawrence Welk and the Circle-R Ranch. This nest may have been abandoned during the expansion of I-15 to its present configuration, or it may have occurred over a longer period of time, with the absence of wildfires leading to denser accumulations of chaparral vegetation and fewer open areas to forage for large-rodent to rabbit-sized prey. The lack of occupation of the historical eagle nest on the site Merriam is further documented by Unitt (2004), in the San Diego County Bird Atlas that shows no Golden Eagle observations during the five-year period between March 1997 and February 2002 in the vicinity of I-15, north of State Route (SR) 78 or south of Gopher Canyon Road. This study relied on focused field studies during the winter and breeding season County-wide, on individual cells 3 miles (5 km) on a side. Dr. Thomas Scott (pers. comm. 2005), who studied historical and recent Golden Eagle nest sites in San Diego County, has indicated that "old guys called this nest "Cozy Nook" and it was last active in the 1980's."

The potential for Burrowing Owl is very low. This typically grassland species has not been observed on the Merriam site during the current round of field work (2001-2004), but was listed in the 1998 species list for the Safa Ranch project (Pacific Southwest 1998) as occurring on the site. The Safa Ranch project included lands from the northern portion of the inner meadow/ valley of the Merriam site (Neighborhood 3), and this is the most likely area where a Burrowing Owl may have been encountered. Unfortunately, no site-specific information was listed in the 1998 report.

The following sensitive species were detected as present or are expected to occasionally occur at the site:

Northern Red-diamond Rattlesnake (*Crotalus ruber ruber*)

This species was occasionally encountered during zoological field work on the site, primarily in rocky or boulder areas in the northeastern portion of the site.

San Diego Horned Lizard (*Phrynosoma coronatum blainvillei*)

This species was occasionally observed in various parts of the site, but appears to be uncommon on the site because of the dense chaparral vegetation without extensive open areas with extensive sandy soil patches that support harvest ants.

Belding's Orange-throated Whiptail (*Aspidoscelis hyperythrus beldingi*)

This species, like the Horned Lizard, depends on sandy soils, often in openings or along trails in coastal sage scrub or chaparral, where it was occasionally observed on the site.

Coastal Whiptail (*Cnemidophorus tigris stejnegeri*)

This insectivorous lizard, found in a greater variety of habitats than the Belding's Orange-throated Whiptail, was also found on the site.

Cooper's Hawk (*Accipiter cooperi*)

This species is widespread and locally common, even in suburban areas of San Diego County (P. Unitt, pers. comm.); it has been observed on the Merriam site, typically around oak or other woodlands, where is typically preys on small birds.

Coastal California Gnatcatcher (*Polioptila californica californica*)

This federally-listed Threatened species was observed on the project site during the spring survey. Much of the southeastern portion of the ownership is included in the final Critical Habitat designated for the species (U. S. Fish and Wildlife Service 2000), although a single pair of these species only utilizes a small segment of the 28.4 acres of Diegan Coastal Sage Scrub on the site. Southern Mixed Chaparral, which composes approximately 95% of the land cover in the Merriam site, is not suitable habitat for the Gnatcatcher, though it may disperse over or through this habitat. The Gnatcatchers were observed in the extreme southeastern portion of the property, northeast of the existing gas station, based on two series of habitat assessments and presence/absence surveys for the species (see Figure 8 and Figure 10).

The Gnatcatcher is primarily a coastal species in San Diego County, "where 90% of locations [of the species] are below 1000 feet…" (P. J. Mock in Unitt 2004). Along I-15 north of the San Dieguito River, most records of Gnatcatchers occur within 5 km (3 mile) east of the highway, except for populations northeast of Escondido and an outlier population in the Pauma Valley area (Unitt, 2004). Thus, the I-15 corridor north of the San Dieguito River is near the eastern edge of the species' distribution in this part of San Diego County. This Gnatcatcher distribution closely matches the distribution of sage scrub habitats (as opposed to dense chaparral-dominated lands) and the general 1000 ft elevation limit for the species.

A map of Gnatcatcher records along the I-15 corridor and along the upper San Luis Rey River is shown on Figure 10. This figure indicates 22 loci of Gnatcatchers within 3500 ft of I-15 (including this study's location at the southeast corner of the Merriam Project); a few records for Gnatcatchers also exist south of Deer Springs Road but north of Escondido. The exact status of Gnatcatchers away from the I-15 corridor is unclear because much of this area is in groves or chaparral or has not been surveyed for the species. The wildlife agencies believe that the I-15 corridor provides valuable habitat and serves as a potential corridor for Gnatcatcher occupation and movement along the corridor and to appropriate habitats away from the corridor.

P.J. Mock, in Unitt (2004) states: "The California Gnatcatcher is non-migratory. During post-breeding dispersal, in late summer and fall, juveniles typically move less than 3 km; their longest documented dispersal distance is 20 km. Dispersing young cross riparian woodland, chaparral, and artificial landscaped, including major highways and residential development. The many examples of occupied habitat patches isolated by extensive development also attest to such movement. First-year birds establish territories by October and remain on them through the winter. Extensive movements by adults are relatively rare…the longest documented dispersal distance by an adult is 10 km…" The distance between the Deer Springs Road area Gnatcatcher location and the next location to the north along I-15 is approximately 1.2 mi (1.93 km). The next Gnatcatcher record on the west side of I-15 is about an additional 2.61 mi (4.2 km), south of Gopher Canyon Road, then another 0.28 mi (0.44 km), north of Gopher Canyon Road. Gnatcatchers are thought to disperse along the I-15, which includes the project site through brushy areas including Coastal Sage and Chaparral habitats.

California Thrasher (*Toxostoma redivivum*)

This species, placed on the National Audubon "Yellow List," is still common in appropriate chaparral habitat in the coastal foothills and mountains of southern California; it has no governmental sensitive rating at this time. The species was commonly seen in chaparral on the Merriam site.

San Diego Desert Woodrat (*Neotoma lepida intermedia*)

This species inhabits chaparral and woodland areas, particularly in rocky areas and its large conical nests have been observed in various places on the Merriam site.

Mountain Lion (*Felis [Puma] concolor*)

This wide-ranging species is uncommon in rural areas of southern California, but still present in open parts of the western mountain foothills. The species was noted as present in the Safa Ranch project biology report (Safa included portions of the south-central part of the present Merriam ownership (Pacific Southwest 1998); the presence was attributed to Dr. Don Hunsaker, with no more information cited. Pacific Southwest field staff's conversations with residents immediately north of the Merriam site indicate that a Mountain Lion has occasionally been seen, but not for several years. Given that the main prey item for this species is Mule Deer, which prefers more open vegetation, absence of the Mountain Lion is not surprising; however, it may still occasionally use the site.

Southern Mule Deer (*Odocoileus hemionus*)

This species is typically found in the undeveloped coastal foothills (as well as the mountains and parts of the desert) of San Diego County but apparently does not occur regularly on the Merriam site. Mule Deer, although a commonly hunted game species, is of importance because its presence can be indicative of a healthy upland ecosystem; it has been identified as a Covered Species in local subregional habitat conservation plans.

The species forages in shrubland openings and uses forested areas or dense brushy areas for cover. The extremely dense nature of the chaparral on the site probably limits the availability of suitable habitat on the Merriam site. This species was never directly observed on the site during the 34 field visits, although sign (droppings) of this species was observed once or twice, early in the field surveys. Conversations with water district staff indicate that, although they remember seeing deer on the property, they did not recall seeing Mule Deer on the site during the last three to five year period; these staff visits the site on a weekly basis to maintain the water lines on the site. Thus, Mule Deer may occasionally utilize the site, but so irregularly or seldom that they should not be considered regular residents on the site. The dense chaparral habitat, steep slopes and lack of access from the east due to the freeway also probably limit Mule Deer utilization of the site.

1.4.8 Wetlands/Jurisdictional Waters

The property is under the guidelines of the county's Resource Protection Ordinance (RPO). RPO defines wetlands as "all lands which are transitional between terrestrial and aquatic

systems where the water table is usually at or near the surface or where the land is covered by water. All lands having one or more of the following attributes are wetlands: (1) At least periodically, the land supports predominantly hydrophytes, (2) The substratum is predominantly undrained hydric soil, or (3) an ephemeral or perennial stream is present, whose substratum is predominately non-soil, and which either (a) water from a tributary drainage area of 100 acres or larger flow; or (b) (for waters from a tributary drainage of les than 100 acres) substantial evidence demonstrates that such lands contribute substantially to the biological function or value of adjacent wetlands located up- or down-stream. RPO requires avoidance of wetlands and avoidance of the wetland buffer adjacent to the wetlands. The County RPO prohibits certain uses within RPO-defined wetlands and requires Wetland Buffers to protect the environmental and functional habitat values of wetlands, with buffer widths from 50 to 200 feet in width.

Soils for the property are generally mapped as Acid Igneous Rock, Cieneba, Escondido, Fallbrook, Friant, Los Posas, Vista Rock, Wyman series (Bowman 1973). None of these soils are listed as a hydric soil of California (ACOE 1987) (see Figure 7). ACOE hydric soils also includes other soils formed in place when saturated for an extended period: these potential conditions were investigated during individual drainages for various jurisdictional determinations. The steep slopes and ridgelines create five major watersheds, each with numerous erosional features and drainages. Most of the drainages on site do not periodically support predominately hydrophytes, the substrate is not predominantly undrained hydric soil, or the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year and are classified as ACOE Non-wetland waters of the U. S. and CDFG Streambeds.

The property supports very little jurisdictional wetland area, based on the definitions listed above (see attached Wetlands Delineation Report). There are several small isolated areas of riparian vegetation located within some of the drainages (Figure 8). These areas do not meet the three criteria required to be classified as ACOE wetlands. However, these areas meet one (vegetation) of the three required criteria for CDFG and County RPO, and therefore are classified as CDFG wetlands and County RPO wetlands. Two major wetland areas occurring in watersheds A and D had surface water during the survey. One wetland area, in the northern portion of the property, had water at approximately four feet below the ground level. Each of wetlands occurring in the five watersheds is discussed below in more detail. Table 3 summarizes the wetland acreage by watershed.

<u>Watershed A-Southwest Fork Moosa Canyon Tributary:</u>

This area supports 2.06 acres of Southern Willow Scrub, Southern Willow Scrub/Mule-fat Scrub, and Oak Riparian Forest. This watershed includes one of the largest and most diverse CDFG/RPO wetlands occurring on site. This area had surface water during the survey.

Watershed B-San Marcos Creek Tributary:

This area includes 1.60 acres of Southern Willow Scrub, Mule-Fat Scrub and Oak Riparian Forest. The Southern Willow Scrub and Mule Fat Scrub are small isolated areas occurring in the southern portion of the property. Two areas of Oak Riparian Forest occur in the same drainage system. These wetland areas occur within ACOE Non-wetland waters of the U. S. and CDFG Streambed. The two small areas of Southern Willow Scrub are isolated from the other wetland areas occurring downstream.

Watershed C-Basin C:

This watershed does not include any jurisdictional wetland areas, but includes ACOE Non-wetland waters of the U. S. and CDFG Streambeds.

Watershed D-South Fork Gopher Canyon Tributary:

This watershed includes the largest area (3.97 acres) of diverse riparian vegetation. This area includes areas of Fresh Water Marsh, Southern Willow Scrub and Oak Riparian Forest. Surface water was flowing during the survey.

Watershed E-Basin E:

This area includes two small areas of Southern Willow Scrub located within ACOE and CDFG drainage.

RPO Wetlands and Other Jurisdictional Wetlands on the project site consist of Freshwater Marsh (0.1 acre), Mule Fat Scrub (0.2 acre), Oak Riparian Forest (2.3 acres), Southern Willow Scrub (2.6 acres), Southern Willow Scrub/Mule Fat Scrub (0.3 acre), Southern Willow Scrub/Tamarisk Scrub (0.6 acre), Sycamore Alluvial Woodland (1.6 acres) and Unvegetated Wetlands (0.2 acre). The total RPO Wetlands on site consist of 7.9 acres.

Discussion of Jurisdictional Determination

The Merriam property includes sharp ridgelines and very steep slopes. The topography of the property creates the upper reaches of five watershed areas. Because the property is basically at the top of these watersheds, these areas do not hold water long enough to form wetland areas. Much of the water that falls on the site flows rapidly down hill and is retained only in a few flat areas. Many of the erosional features do not show signs of flow and include only upland vegetation (Southern Mixed Chaparral). Water may flow in some of these drainages only during times of heavy rainfall. It appears that many of the drainages do not experience flow

once per growing season. Only two areas had surface flow at the time of the survey. Both of these areas would not be impacted by the project, as presently designed. Most of the drainages on-site are classified as ACOE waters of the U. S. and/or CDFG streams.

Since the soils on site are not listed as hydric soil and the delineation process did not identify other soils formed in place when saturated for an extended period, the property does not include ACOE wetlands, as this is one of the three criteria required by ACOE to be classified as an ACOE wetland. Since the wetlands areas on-site support a prevalence of riparian vegetation, these are classified as CDFG wetlands and County RPO wetlands, as the presence of riparian vegetation is one of the three required criteria to be classified as CDFG and RPO wetlands. Most of these wetlands areas are small pockets of isolated riparian vegetation (Southern Willow Scrub and Mulefat Scrub), with the exception of two major areas, growing in low portion of drainages. Because of the small size and isolation from other riparian area occurring off site, the smaller wetland areas occurring on the site offer very limited biological function/diversity to the Merriam Mountain property.

Biological Resources Associated with Off-site Improvements

Deer Springs Road Improvements (off site)

Widening of Deer Springs Road from the I-15 interchange to Twin Oaks Valley Road would result in relatively small impacts to a variety of native and non-native habitats shown in Table 4 (see Figures 11A-1 through 11A-3 for vegetation within and adjacent to improvements), including jurisdictional wetlands and waters. Impacted vegetation would consist of Intensive Agriculture (1.3 acres), Non-vegetated channel (0.8 acres), Coast Live Oak Woodland (0.1 acres), Coastal Sage-Chaparral Scrub (3.0 acres), Disturbed Habitat (1.1 acres), Eucalyptus Woodland (1.4 acres), Non-native Grassland (1.2 acres), Orchard (0.6 acres), and Urban Developed (20.5 acres). Total offsite impacts associated with roadway improvements along Deer Springs Road would include 30 acres.

Other Off-site Improvements

The project would also require improvements at twelve off site intersections, including some located at the project boundaries; Figure 5 shows the intersection improvements locations and Figure 6A Figure 6B and Figure 6C show aerial views of offsite intersection improvements. All of the intersection improvements would take place within existing rights of way of the respective roadways. In addition, Camino Mayor will be improved to provide a paved secondary emergency gated access roadway within the existing disturbed 40-foot easement. The roadway will be improved from the western project limits to Twin Oaks Valley Road as seen on Figure 6B. Biological conditions of these roadways are discussed below. The project engineers have

indicated that all of the improvement areas are within the existing rights of ways and no equipment staging areas are anticipated to occur outside of existing rights of ways.

Intersection 1: Gopher Canyon Road/I-15

This existing intersection includes the separate north- and south-bound lanes of I-15, crossing over Gopher Canyon Road, which exists at ground level. On the west side of the elevated freeway lanes are off-and on-ramp lanes intersecting with Gopher Canyon Road to the east. Areas proposed for improvements include existing roadbeds and shoulders consisting of mixtures of Disturbed Habitat, with an adjacent band of Non-native Grassland. Habitats adjacent to the improvement areas include Coastal Sage Scrub and Southern Oak Woodland habitats, none of which would be impacted by the proposed improvements.

Intersection 2: Deer Springs Road/I-15

This existing intersection would be improved with widening of existing roadways. The areas immediately adjacent to existing paved areas are presently Disturbed habitat, in a matrix of adjacent previously graded areas, now covered primarily with Non-native Grassland habitat.

Intersection 3: Deer Springs Road/Mesa Rock Road

This existing four-way intersection has a variety of existing uses, including a CalTrans parking area on the northeast corner, a narrow area of Disturbed Habitat and Non-native Grassland on the southeast corner, bounded by Mesa Rock Road to the south and a freeway on ramp running parallel to the east. On the southwest corner exists a mobile home park with Urban/Developed landscaping bounded by a limited area of Non-native Grassland and Disturbed habitat adjacent to the existing pavement. On the northwest corner exists the margin of a Coast Live Oak Woodland.

Intersection 4: Deer Springs Road/Merriam Mountains Parkway

This would be a new intersection, bringing Merriam Mountain Parkway to a T-intersection with Deer Springs Road. All improvements would take place on the north side of Deer Springs Road. An existing mobile home park exists south of Deer Springs Road, bordered with a mixture of Coast Live Oaks planted eucalyptus trees along the existing Disturbed habitat within the road shoulder. North of Deer Springs Road, a fringe of Disturbed habitat is bordered on the adjacent slopes with Southern Mixed Chaparral that shows disturbance and regrowth along some previously cut slopes.

Intersection 5: Deer Springs Road/Meadow Park Lane

Areas planned for improvements at this intersection include existing pavement and graded road bed along with planted eucalyptus grove immediately along the road way to the north. South of Deer Springs Road exists a Southern Oak Woodland that would not be impacted by the proposed roadway improvements.

Intersection 6: Deer Springs Road/Twin Oaks Valley Road

This Y-intersection includes low-intensity uses, with Disturbed Habitat southeast of the intersection. North of the intersection, the weedy shoulders are bordered by Non-native Grasslands. On the northwestern corner, disturbed habitat along the road shoulder are partially fringed with existing eucalyptus and other non-native trees, constituting an Urban/Developed habitat; beyond the roadside trees exists planted row crops.

Intersection 7: Twin Oaks Valley Road/Buena Creek Road

This existing T-intersection includes existing large-lot home sites with Urban/Developed habitat east of Twin Oaks Valley Road. North of Buena Creek Road exists a large green house agricultural structure, along with Urban/Developed landscaping and Disturbed Habitat along the road shoulder. South of the intersection exists commercial structures with Urban/Developed habitats adjacent to the road.

Intersection 8: Twin Oaks Valley Road/Cassou Road

This intersection includes different uses and habitats on each corner of the intersection. The northwest corner exhibits the existing pavement, with a narrow Disturbed habitat shoulder, then a field previously used for agriculture that has taken on Non-native Grassland characteristics. The northeast corner includes the existing pavement, a narrow band of weedy vegetation (Non-native Grassland) and active truck crops. A narrow channelized drainage exists along the north side of Cassou Road, east of Twin Oaks Valley Road. A partially fenced vehicle storage facility exists on the southwest corner, with a Disturbed habitat parking area adjacent to the paved road. On the southeast corner, an Urban/Developed turf area exists in front of a commercial facility.

Intersection 9: Buena Creek Road/Monte Vista Drive

This existing intersection contains the existing pavement and the adjacent Disturbed habitat road shoulders with a mixture of Urban/Developed landscaping associated with existing large-lot residential development. On the south side of the intersection, the Disturbed habitat

road shoulder is adjacent to Urban/Developed landscaping (including scattered eucalyptus trees), with oak woodland existing further away from the road to the south.

Intersection 10: Mountain Meadow Road/Champagne Boulevard

This existing intersection would be improved within the existing right-of-way consisting of a traffic signal. The areas immediately adjacent to the existing pave areas consist of disturbed habitat, paved parking lots and previously graded areas.

Intersection 11: Robelini Drive/South Santa Fe

This existing intersection contains paved surfaces and a mixture of Urban/Developed landscaping. Improvements would include the extension of the northbound right turn lane which consists of paved surfaces and landscaping to the south.

Intersection 12: Buena Creek Road/South Santa Fe Avenue

This intersection, some distance to the west from the project location, consists of a Y-intersection at Buena Creek Road and South Santa Fe Avenue, near the crossing of Buena Creek Road over the North County Transit District (NCTD) tracks. Habitats associated with the intersection include Disturbed habitats east of the intersection (used for temporary dirt storage in January of 2006); planted eucalyptus trees, Disturbed habitat and Non-native Grassland exists east of the intersection. To the north of the intersection, a channelized drainage is crossed by the existing Buena Creek Road; the TCTD tracks are located north of this channel and residential housing is located north of the tracks. Improvements at the Buena Creek Road/South Santa Fe intersection would occur within the paved right-of-way

Camino Mayor

Improvement along Camino Mayor would include providing a paved access road within the existing disturbed 40-foot easement. Minimal disturbed chaparral is located within the 40-foot easement as it is mostly disturbed due to vehicles utilizing the roadway. All improvements are to occur within the disturbed 40-foot easement.

1.4.9 Habitat Connectivity and Wildlife Corridors

Pacific Southwest Biological Services performed additional field work in the project area to determine, in a general sense, the patterns of existing wildlife use within the project site. Additionally, Pacific Southwest investigated potential areas of wildlife movement in the northern

areas (and other areas) of the site, focusing on ways to facilitate movement of medium to large mammals off-site (including rabbits and larger mammals).

The chaparral on the site is extremely dense, except where roads cut through the vegetation. Rock outcrops are located within the chaparral, usually near or on the hilltops. Diegan Coastal Sage Scrub is located in an extremely limited area, primarily at the northern-eastern-most portion of the site.

All the canyons surveyed were extremely steep and generally covered with dense Southern Mixed Chaparral. A total of 15 canyons were investigated, of which two showed the highest potential for facilitating movement of large mammals to off-site locations (Canyons # 1 and 9) (see Figure 9). Canyon #9 is located in the northwest portion of the property and empties into the old quarry on-site. An access road runs parallel to it, continuing through the quarry to Twin Oaks Road. Canyon #1 is located just north of the project boundary and runs in a westerly direction until reaching the south fork of Gopher Canyon. A matrix of access roads and canyons found on the northern portion of the site eventually connect to this canyon.

Dirt access roads and trails are located throughout the site. These roads are more numerous in the northern portion of the site, and in many instances connect with one another, possibly facilitating wildlife movement in the northern portion of the site. Access to the eastern portion of the site through these roads is extremely limited because of general lack of roads. All canyons are linked to these roads with the exception of Canyon #12. In some areas, dirt roads link with paved roads, which continue off-site. On the south side of the project, access roads near Canyons # 6 and 8 meet up with Lawrence Welk Drive**.**

Urban/Developed land use is found off-site to the west, south of Canyon #11. The density of Urban/Developed land increases from this point south. Avocado groves are found in the less dense areas, with patches of Southern Mixed Chaparral and homes also present. Interstate Highway 15 parallels the site to the east and avocado groves are found north of the northern-most portion of the site. Vegetation on the remainder of the adjacent properties consists of Southern Mixed Chaparral, Diegan Coastal Sage Scrub and low-density agriculture (mostly avocado groves).

Coyote and Gray Fox scat (feces) were found along many of the northern access roads on-site. Scat of these mammals was found more frequently at the abandoned quarry site and adjacent access roads. Note that these mammals use scat as a method of marking territories and concentrations of scat may imply the location of a territorial boundary or local movement area used by a number of animals. A conversation with a long-time resident living just north of the property indicated that she had seen a Mountain Lion in the area somewhat frequently and in recent years (but not in the past two years or so prior to 2004).

Due to the dense nature of chaparral vegetation found onsite, it is highly likely that the existing dirt access roads are the primary avenues for terrestrial wildlife movement, at least for medium-sized and larger mammals. Many of these roads join canyons, which could be used as secondary areas for movement, where they are open enough to allow access. An extensive matrix of canyons and roads exist in the northern portion of the site that can support movement and access to a number of locations within the project area and to suitable habitat offsite. Since most of the canyon bottoms on the site are clothed in dense chaparral, probably limiting substantial movement within these canyons at present, existing trails and roadways may be more heavily used. In the southern portions of the site, the proximity of adjacent residential and agricultural uses and roads with higher traffic volumes probably reduced both internal and external wildlife movement in the south.

Table 5 presents the published home ranges (the area in which an animal normally ranges) for a variety of mammalian wildlife found on the Merriam site (including two species, the Mountain Lion and Mule Deer, previously documented, but may still occasionally use the site). Other terrestrial wildlife, including amphibians and reptiles, tend to have smaller home ranges than the mammalian species noted in the table. Birds, because they can fly and many are in fact migratory, are less dependent on immediately local habitats for local, subregional or regional movements. This table illustrates that most of the mammals using the site have relatively small home ranges: on an order of about 0.1 to 0.5 acre for smaller mammals, to 50-300+ acres for medium sized mammals, to much larger areas (1,000-13,000 acres for Bobcat, a species known to utilize the site). The widest ranging species apparently using the site presently are Bobcat and Coyote (home ranges up to nearly 20,000 acres). These latter species undoubtedly use the Merriam site and may occasionally use additional rural, farm land and natural habitats adjacent to the project site. Mule Deer, a species that has used the site in the past but that apparently does not presently occupy the site, have a relatively small home range of 250-700 acres); while the Mountain Lion, another hypothetical species on the site may range over from 1,300-6,400 acres). Table 5 gives a range of species and their normal home range areas in order to gauge potential animal movement within the Merriam site, as well as to and from adjacent areas.

The South Fork of Gopher Canyon and undeveloped portions of the San Marcos Mountains are located west of Twin Oaks Road and the project site. These areas show favorable attributes as both primary habitat and movement area habitat for larger forms of wildlife. Riparian vegetation found within the South Fork of Gopher Canyon has a more open understory to facilitate movement and is habitat for prey items for Bobcat, Gray Fox, Coyotes and potentially, Mountain Lion. Additionally, this area is a tributary to the San Luis Rey River, which is a regionally-important riparian habitat and corridor. Riparian habitats provide water, food, cover, and both linear and lateral wildlife movement potential. The San Marcos Mountains also have suitable habitat characteristics for mammal species found on-site, and are largely

undeveloped at present. These mountains could provide wildlife with important life history resources and potential access through the South Fork of Gopher Canyon, back and forth from the San Luis Rey River. The access road adjacent to Canyon #9 and Canyon #1 are the most likely routes taken to get to these off-site locations.

Surface Water

Because surface water is scarce within the Merriam site, off-site sources of water may be important factors for local wildlife movement. Even though the majority of the Merriam site has maintained imported water lines, except for minor leaks, surface water on the upper slopes and ridge tops is generally absent. Some limited ponding of surface water in previously graded areas adjacent to the abandoned air strip on the north does occur after winter storms. Permanent surface water on the Merriam site and appears limited to two areas on site, including the south fork of Gopher Canyon, and a major drainage with riparian woodland adjacent to I-15. This latter canyon also contains remains of home site and an old weir nearby that has formed a small ponded area. The lack of surface water is important for wildlife in the summer months, when temperatures are highest. Man-made ponds exist on a dairy farm west of Twin Oaks Road and an avocado grove west of the quarry. Other ponds or temporary sources of surface water may also exist in and among the various avocado groves found adjacent and off-site of the project boundary. Access to the known ponds is by roads found in the northern portion of the site. Groves probably provide some degree of cover and limited food sources, even though a totally artificial, non-native habitat.

Wildlife Movement Summary

Initial qualitative observations of terrestrial wildlife movement signs on the Merriam site indicate that the site is used primarily by small to medium sized species such as rodents, squirrels, Gray Foxes, Bobcats and Coyotes.

Existing terrestrial wildlife use of the majority of dense Southern Mixed Chaparral may be limited because of the lack of habitat diversity and very dense foliage and lack of surface water. Terrestrial wildlife movement appears largely limited to the extensive series of dirt roads on the site formed for water line maintenance or individual lot access. Permanent surface water appears limited to two areas on site, including the south fork of Gopher Canyon, and a major drainage with riparian woodland adjacent to I-15. There is some evidence that pools are formed during winter storms, but these are temporary sources of surface water for wildlife.

Biological Open Space (Preserve Design)

Access to areas of greatest habitat diversity and surface water sources is important in designing a functional habitat preserve system that is compatible with the development design. Important preserve design elements include maintaining existing wildlife movement areas were possible; allowing for continued movement corridors by routing dirt roads and trails around development areas; maintain or enhance access to surface water sources, and preserve and enhance the habitat linkages to off-site areas, particularly the connection to the San Marcos Mountains. Additionally, careful design of the development area periphery is important to separate wildlife use from developed portions of the site (to avoid conflicts with wildlife). Additionally, peripheral areas can provide wildlife benefits by providing through-access and habitat that differs from the very dense, senescent chaparral that covers the majority of the Merriam site at present.

The northern portion of the Merriam site appears to have greater conservation value compared to the southern portion of the site, with the following characteristics: (1) it is broader in the east-west direction [reduced surface to area ratio]; (2) it is immediately adjacent to areas not generally used for agriculture; (3) it extends west to connect to the San Marcos Mountains, across Twin Oaks Valley Road; and (4) it contains more rugged topography, including the highest point on the site. In contrast, the southern portion of the site: (1) is narrower in width (higher surface to area ratio); (2) is adjacent to commercial or agricultural lands on the eastern, southern and southwestern sides; (3) is not adjacent to the San Marcos Mountains or other open areas; and (4) the topography varies, although not to the extent of the northern portion of the site.

As the northern portion of the Merriam site has the greatest potential of supporting wildlife movement internally and externally of the site, the project has been clustered in an all-south design that concentrates development in the southern portion of the ownership. This design leaves the northern portion of the site consolidated as a single block of habitat, except for two project access road, Camino Mayor (leading to Twin Oaks Valley Road) and Lawrence Welk Court (leading to I-15). This design maintains a large, contiguous reservoir of undisturbed Southern Mixed Chaparral with a variety of elevations, slope variations and slope exposures. Additionally, this redesign insures that the site maintains a broad habitat connection to the largely undeveloped San Marcos Mountains, adjacent to the west.

The main concern in preserve design is that the functionality of the matrix of existing roads and canyons not be impeded unless these functions can be replaced or enhanced. As the project was initially designed, some of these areas would be developed, making existing dirt roads unavailable for wildlife use.

Functionality of existing wildlife movement areas within this area could be maintained with proper design of the developed and preserved areas. For example, wildlife trails can be incorporated within or adjacent to strategic fuel management zones (provided some topographic or vegetation cover is maintained). New trails can also be constructed to link interrupted existing trails used for movement of wildlife so the potential for such movement still exists. In order to reduce wildlife/human interaction, barriers may be appropriate to separate wildlife habitats from developed areas. It may be necessary to use barriers and culverts to focus wildlife movement into selected areas to avoid traffic-caused injuries to wildlife.

The project has been clustered in an all-south design that concentrates development in the southern portion of the ownership. This design leaves the northern portion of the site consolidated as a single block of habitat, except for two project access road, Camino Mayor (leading to Twin Oaks Valley Road) and Lawrence Welk Drive (leading to I-15). This design maintains a large, contiguous reservoir of undisturbed Southern Mixed Chaparral with a variety of elevations, slope variations and slope exposures. Additionally, this redesign insures that the site maintains a broad habitat connection to the largely undeveloped San Marcos Mountains, adjacent to the west. Table 6 presents a summary of biological effects for the alternative projects considered.

1.5 APPLICABLE REGULATIONS

1.5.1 Federal Regulations

Federal regulations apply to a number of resources typically found in Southern California, including the Migratory Bird Treaty Act which protects most native species of birds, while specific regulations, such as the Bald Eagle and Golden Eagle Protection Act (United States Code, Title 16, et seq.) prohibits the taking of these species without appropriate permits. The federal Endangered Species Act of 1973 (16 U.S.C. §§ 1531-1544, December 28, 1973, as amended 1976-1982, 1984 and 1988.), as amended, protects taking of species of plants and animals listed as Threatened or Endangered.

The Army Corps of Engineers regulates activities affecting wetlands and non-wetland waters pursuant to Section 404 of the Federal Clean Water Act and Section 10 of the Rivers and Harbors Act.

1.5.2 State Regulations

The California Fish and Game Code regulates protection of natural resources under state protection, including the California Endangered Species Act (Sections 2050-2085). The code also applies to protection of streambeds (Sections 1600-1616). The California Regional Water Quality Control Board (RWQCB) regulates activities under Section 401 of the Federal CWA and

the California Porter Cologne Water Quality Control Act. The California Environmental Quality Act (CEQA, California Public Resources Code, Sections 21000 - 21178, and Title 14 CCR, Section 753, and Chapter 3, Sections 15000 - 15387) requires state agencies and local jurisdictions to address environmental consequences of discretionary decisions.

Natural Community Conservation Plans (NCCPs) are authorized under State of California Fish and Game Code (Sec. 2800-2840, as amended). The program is a cooperative effort to protect habitats and species. The program, which began in 1991 under the State's Natural Community Conservation Planning Act, is broader in its orientation and objectives than the California and Federal Endangered Species Acts. These laws are designed to identify and protect individual species that have already declined in number significantly. The primary objective of the NCCP program is to conserve natural communities at the ecosystem scale while accommodating compatible land use. The program seeks to anticipate and prevent the controversies caused by species' listings by focusing on the long-term stability of wildlife and plant communities and including key interests in the process.

1.5.3 Local Policies and Ordinances

The County of San Diego has ordinances and Board of Supervisor's Policies, as well as adopted land use plans (community and subregional land use plans) that apply to land use issues and natural resources.

Habitat Conservation Planning

Throughout California and particularly southern California, several regional habitat conservation planning efforts have been initiated and/or approved that attempt to preemptively plan for conservation of large core areas of viable native habitats, with intervening wildlife "corridors" or linkages. These large-scale planning efforts attempt to integrate conservation planning with land use planning to conserve a working ecosystem, conserve existing listed species, provide measure to prevent additional species from being listed, and to accommodate land use changes that are consistent with the long-term conservation plans.

The project is located within the Natural Communities Conservation Planning Act (NCCP) planning area. The County became a participant in the NCCP in 1993 with the stated intent to "…provide for regional protection and perpetuation of natural wildlife diversity while allowing compatible land use and appropriate development and growth." The NCCP Process Guidelines were established as interim guidelines until formal subregional plans were approved. The draft NCMSCP is the proposed subregional plan for this portion of the County of San Diego.

The County of San Diego is currently involved in producing an MSCP subarea plan for the northwest portion of the county jurisdiction west of the Cleveland National Forest boundary -

(draft North County MSCP Subarea Plan). This plan area includes Rancho Guejito, Valley Center, Pauma Valley, the Merriam and San Marcos Mountains, Moosa and Keys Creek drainages, the San Luis Rey River valley, DeLuz area and Santa Margarita drainage north of USMC Camp Pendleton. To date, the draft North County MSCP has developed and refined habitat evaluation models (described below), undergone scientific review committee review and held several public meetings. The project is currently undergoing environmental documentation. The information presented here identifies this existing and ongoing habitat conservation planning effort but, since the plan is not adopted and may not be adopted in its present form, this discussion is only is only tentative.

A key aspect of the MSCP effort is the identification of either "hard-line" conservation areas (where property owners have agreed to distinct conservation boundaries) or "soft-line" planning areas where specific agreements with land owners are tentative or have not yet been reached. In soft-line areas, certain areas are identified as idealized preserve core and linkage areas. These areas are generally seen as areas where efforts for careful planning of new land uses and functional preserve areas should concentrate.

In the southwestern part of the draft North County MSCP, the primary areas proposed for potential conservation include the undeveloped portions of Jesmond Dene, southeast of Merriam, the steep, west-facing slopes east of the Lawrence Welk Resort, the Merriam Mountains and the San Marcos Mountains, as well as the undeveloped slopes along I-15, Moosa and Keys Creek valleys and the San Luis Rey River valley. A symbol on the plan maps indicates that the project area is currently being negotiated for a hard line preserve. The first proposed conservation area in the draft plan showed virtually all of the project ownership, as well as contiguous areas that are not part of the Merriam project area; currently, the area is identified as having a hardline agreement.

The northern part of the Merriam Mountains that contains the project site is important in the draft North County MSCP because it, along with the San Marcos Mountains to the west, are two large blocks of largely undeveloped land surrounded by developed land. These areas have a somewhat limited connection to other smaller undeveloped areas to the north to along the south fork of Gopher Canyon to the San Luis Rey River, an important regional riparian habitat core and linkage area. The Merriam Mountains are also somewhat connected to open lands south and east of the Lawrence Welk resort across I-15 and with lands along the I-15 corridor north to the San Luis Rey River and Keys the Keys Creek Drainage. These proposed connections are not necessarily areas of individual animal migration or movement, but provide a system of contiguous or semi-contiguous habitats that would allow for populations of plants and animals to persist within the core areas and to retreat or reinvade outlying areas that may suffer from catastrophic habitat changes (such as the major San Diego county wildfires in 2003). This fabric of habitats should allow for the continued existence of high-sensitivity species as well as

reducing the potential for lower-sensitivity species to become threatened or endangered. Thus, for this proposed preserve system to be viable in a 200-year perspective, it must be shown that the basic biological functions of the exiting core areas and linkages will not be substantially be reduced in function. This also assumes that the identified core areas are linkages are presently viable.

The draft North County MSCP regional habitat evaluation model (HEM) shows the Merriam site as having a moderate HEM score, with smaller patches of High HEM score in the northern, central and southern parts of the Merriam site, with smaller patches of very high HEM score, associated with patches of Coastal Sage Scrub vegetation (including most of the connection into the San Marcos Mountains) and presumably a historic raptor nest in the east-central portion of the site. The HEM map for the area outside the Merriam ownership shows the surrounding Intensive Agriculture or Urban areas surrounding the site except for the majority of the San Marcos Mountains, which was given a very high HEM score.

Prior to the initiation of the MSCP planning effort, the Merriam Mountains were recognized by the County's North County Metropolitan Subregional Plan by its designation as the Merriam Mountain Resource Conservation Area (RCA). This RCA is characterized as having "Resources in this area similar to the San Marcos Mountains including the same species of rare plants plus *Comarostaphylos diversifolia*." Concerning the San Marcos RCA, the definition states as follows: "These mountains are especially significant because they have rare and endangered plant species such as, Parry's tetracoccus (*Tetracoccus dioicus*) and southern mountain misery (*Chamaebatia australis*)."

The project must demonstrate conformance with overall goals and policies of the NCCP, and may also be required to make the specific findings applicable to issuance of Incidental Habitat Loss Permits (HLPs). Through hardline negotiations with the Wildlife Agencies, and in signing a hardline agreement for the NCMSCP, the project has demonstrated conformance with the general principles. If NCMSCP has not been adopted at the time of project approval, the specific findings applicable to NCCP will be made. The hardline agreement has established that the project footprint is consistent with preserve design principles under the NCCP. The NCMSCP Vegetation Map, NCMSCP Habitat Evaluation Model and County SITES Model Results characterize the property's vegetation as predominately Southern Mixed Chaparral and its habitat value as moderate with limited areas of high, very high and low. However, this area has greater preservation value to because it is such a large natural area with connectivity to the San Marcos Mountains and ultimately to the San Luis Rey River to the north and northwest. Focused Planning Areas (FPAs) for the SANDAG North County Multiple Habitat Conservation Program (MHCP), and the planning maps for the NCMSCP indicate that most existing connectivity is in the north and northwestern portions of the site, with connectivity to the south and east being limited by I-15 and existing urban development. The NCMSCP Subarea Working

Draft Map identifies the project site with an asterisk indicating, "Properties currently being negotiated for hardline preserve".

Consistent with generally accepted preserve design principles, the project preserves a large block of open space (Biological Open Space), including the northern and northwestern portions of the site and provides offsite regional linkages between offsite lands in the San Marcos Mountains to the west, and north along Gopher Canyon and to the San Luis Rey River. Figure 1.1-20 depicts the areas that will be preserved as Biological Open Space, development areas, natural parks and other open space areas that were agreed upon by all parties mentioned above. The project's hardline boundary, when the NCMSCP is approved, would eliminate the need for a separate NCCP (HLP) approval from the County, CDFG and FWS.

Resource Protection Ordinance: Sensitive Habitat Lands

> The County RPO defines "Sensitive Habitat Lands: in the following manner:
> *…Land which supports unique vegetation communities, or the habitats of rare or endangered species or sub-species of animals or plants as defined by Section 15380 of the State [sic] California Environmental Quality act (CEQA) Guidelines (14 Cal Admin. Code Section 15000 et seq.). "Sensitive Habitat Lands" includes the area which is necessary to support a viable population of any of the above species in perpetuity, or which is critical to the proper functioning of a balanced natural ecosystem or which serves as a functioning wildlife corridor."*

Occupied California Gnatcatcher Habitat

The patch of Diegan Coastal Sage Scrub north of the Mesa Rock Road cul-de-sac that supports a single pair of Threatened Coastal California Gnatcatchers does qualify as a Sensitive Habitat Land under the RPO because the land supports a single pair of Gnatcatchers. This population of California gnatcatchers may be part of a larger population of gnatcatchers along the I-15 Corridor from SR 76 to SR 78. The presence of the gnatcatchers qualifies the area occupied as a Sensitive Habitat Land under the RPO because the area supports this population of a "rare or endangered species or sub-species of animals" as defined by Section 15380 of the State CEQA Guidelines. No other lands on the site meet the definition of Sensitive Habitat Lands under the RPO.

Wetlands

The County RPO prohibits certain uses within RPO-defined wetlands and requires Wetland Buffers to protect the environmental and functional habitat values of wetlands, with buffer widths from 50 to 200 feet in width, based on various factors.

As shown in Figure 8 and Table 7, the project would affect 2.1 acres (26 percent) of RPO wetlands onsite. These impacts would be associated with creation of development pads and project roadways. Affected RPO wetlands are limited generally isolated patches of wetland vegetation and are not associated with the well-developed onsite riparian areas. Approximately 5.8 acres of RPO wetlands would be preserved and managed within onsite Biological Open Space. These impacts are unavoidable given the project goals of concentrating development in the southern portion of the property to create a Biological Open Space in the northern portion of the property, providing a core habitat block in the Merriam Mountains. An amendment to RPO is proposed as part of the project to add an Exemption to Section 86.605 of the RPO. The exemption would exempt "any project located within the approximately 2,327 acres property known as "Merriam Mountains Specific Plan" if determined to be consistent with a comprehensive Resource Management Plan (RMP) which has been adopted by the Board of Supervisors as the functional equivalent of RPO". The project includes a Resource Management Plan (RMP), included in *Appendix T* to the Merriam Mountains EIR, which addresses all RPO resources and describes features incorporated in the project to protect and manage those resources.

RPO wetlands (generally characterized as Coast Live Oak Riparian Forest) would be associated with offsite improvements to Deer Springs Road.

1.6 SUMMARY OF MERRIAM MOUNTAINS BIOLOGICAL RESOURCES

The northern and southern Merriam Mountains along with the adjacent San Marcos Mountains, represent the largest substantial-sized, essentially native blocks of habitat located west of I-15 in central San Diego County. Southern Mixed Chaparral, the primary habitat located on the Merriam project site (approximately 92% coverage) is relatively common in the central foothills of San Diego County, although substantial amounts of this habitat have been converted to grove agriculture. The majority of the chaparral on the Merriam site has been unburned for over one hundred years, which has reduced its wildlife carrying capacity (a variety of microhabitats and habitat interfaces, along with the presence of surface water generally results in greater wildlife diversity). The remaining 5% of the project area supports 18 additional habitat types, with only Diegan Coastal Sage Scrub, Disturbed Habitat, and Non-Native Grassland occupying more than 20 acres each. Additional onsite habitats with potentially important wildlife habitats include Freshwater Marsh (0.1 ac), South Coast Live Oak Riparian Forest (2.3 ac), Sycamore Alluvial Woodland (1.6 ac), a series of willow and Mule-fat-dominated wetland habitats (totaling 3.7 ac), and along with Coast Live Oak Woodland (4.2 ac)

The site contains approximately 68.7 acres of Santiago Peak metavolcanic rocks, some of which has associated Las Posas soils, which often support endemic plants. However, the Southern Mixed Chaparral shows a marked species composition change where it occurs on Las

Posas soils in the San Marcos Mountains, west of Twin Oaks Valley Road. The site supports only three limited distribution plant species: Ramona Horkelia, Engelmann Oak and Summer Holly.

The site supports a single pair of one listed (Threatened) species, the Coastal California Gnatcatcher, located in an isolated patch of Diegan Coastal Sage Scrub at the north end of Mesa Rock Road. Other special-status species include the following: Northern Red-diamond Rattlesnake, San Diego Horned Lizard, Belding's Orange-throated Whiptail, Coastal Whiptail, Cooper's Hawk, California Thrasher, and San Diego Woodrat. Additional species previously recorded for the site, but not observed during the several years of surveys for this project include Golden Eagle, Burrowing Owl, Mountain Lion and Southern Mule Deer. All of these species were widely distributed in southern coastal California, although they have become limited in distribution because of the heavy urbanization of coastal areas of Los Angeles, Orange County, and San Diego counties.

Much of the land between I-15 and the Pacific coast in southern and central San Diego County has been modified from its original vegetation cover to other uses, including agriculture, residential, commercial and industrial uses. South of SR 76 (at the San Luis Rey River), the southern portions of the Merriam Mountains, the northern portion of the Merriam Mountains (substantially the project site) and the San Marcos Mountains are the largest blocks of undeveloped lands west of I-15. In the southern portion of the Merriam Mountains, Interstate 15 and its associated frontage roads(s) represent a significant, although not insurmountable, barrier to terrestrial wildlife movement to the Merriam Mountains from the east. It is likely that some medium-sized species (e.g., Coyotes) do cross this barrier, although substantial mortality probably occurs. In the vicinity of the Merriam project site, this barrier ranges from about 1,485 ft at Deer Springs Road (from the western side of Mesa Rock Road to the eastern side of Champagne Boulevard) to about 335 feet from the western edge of the south-bound lane of I-15 to the eastern edge of Champagne Boulevard. The length of this barrier, between the Lawrence Welk Drive underpass on the north and Deer Springs Road overpass on the south is approximately 14,400 ft or 2.7 miles.

The primary biological value of the Merriam project site is (1) its large size (2,327 acres); (2) it's relatively undisturbed nature (only 2% has non-native vegetation), and (3) its location at the edge of a generally urbanized or suburbanized subregion, west of I-15 with connectivity to points north and west. The site is potentially connected (for wildlife movement) to the San Luis Rey River drainage via Twin Oaks Valley and Gopher Canyon Creek and Little Gopher Canyon Creek. While this connection is somewhat tenuous, it generally follows along the drainages through low-density residential and agricultural uses, with some vegetation cover on the adjacent slopes that would allow at least nocturnal mammal movements. The site is more directly connected westward through agricultural and natural uplands in the valley to the San Marcos Mountains.

2.0 PROJECT EFFECTS

The main focus of the following impact analysis is the extent of the impact to the primary biological resource values of the Merriam project site, and the degree of impacts to unique resources located on the site.

Significance Guidelines Thresholds for Biological Resource Impacts Under CEQA

The following guidelines (*italicized* text) for significance determination under CEQA are used in this report. Each is listed under a generalized biological/ecological function or resource type and evaluated; a significance determination is made. Impacts and proposed mitigation measures are also presented, based on resource and/or impact type. Mitigation measures are fully described when first presented; if applied to additional impacts, only the initial mitigation number and title are given.

3.0 VEGETATION COMMUNITY/HABITAT IMPACTS

3.1 IMPACTS TO NATURALLY FUNCTIONING ENVIRONMENTS

The project will have a significant adverse environmental effect on native biological resources or naturally-functioning ecosystems if:

> *A block of substantially native habitat considered essential to the naturally-functioning local or subregional or regional biological environment will be eliminated or substantially degraded such that it no longer provides comparable biological function(s) or value(s).*

The Guideline above is associated with the protection of biologically important blocks of habitat in a configuration that preserves biological functions and values consistent with accepted conservation biology principles. This guideline is intended to protect the functions and values of such habitat blocks from direct and indirect project-related effects, and to maintain the contribution of such areas to the regional biological environment.

Project Impact Evaluation:

The proposed project would directly impact about 1,135 acres, including development pads and roadways, Other Open Space subject to fuel modification and secondary access roads or about 48 percent of the site's native habitat; an additional 53.7 acres of various habitats would be impacted by offsite improvements. The project design includes 1,192 acres of managed natural habitat Biological Open Space located in the northern portion of the project site.

Specific Direct (on-site and off site) Vegetation/Habitat Impacts are as follows (see Table 9):

Disturbed and other Man-modified Habitats

The project would result in impacts to 2.1 acres (7%) of the existing 27.3 acres of Disturbed Habitat onsite, 12.5 acres (87%) of the existing 13.0 acres of Urban Developed Habitat onsite, 0.3 acre (29%) of the existing 2.4 acres of Orchard habitat onsite, 1.5 acres (100%) of the existing 1.5 acres of Eucalyptus Woodland onsite and 3.6 acres (73%) of the existing 4.9 acres of Intensive Agriculture onsite. All of these impacts are considered less than significant because they are not natural and they have low habitat quality. This impact would not be significant.

Diegan Coastal Sage Scrub

Of the existing 28.6 acres of Diegan Coastal Sage Scrub onsite, the development footprint would result in removal of 18.7 acres, fuel modification would occur to 4.0 acres and 0.4 acres would be impacted through development of secondary access roads and 1.2 acres would be impacted along Meadow Park Lane, while placing 5.5 acres in Biological Open Space. Additionally, approximately 3.0 acres of Coastal Sage-Chaparral Scrub would be impacted by off-site improvements to Deer Springs Road.

Impact Bio-1a – Project related impacts to 27.3 acres of Diegan Coastal Sage Scrub would be significant.

Southern Mixed Chaparral

Of the existing 2,156.6 acres of Southern Mixed Chaparral onsite, the development footprint would result in removal of 479 acres; fuel modification would occur on 526.7 acres, 59.3 acres would be impacted through development of secondary access roads and 14.2 acres impacted by the development of Meadow Park Lane while placing 1,091.6 acres in Biological Open Space.

Impact Bio-1b – Project related impacts to 1,079.2 acres of Southern Mixed Chaparral would be significant.

Mafic Chaparral

Of the existing 57.4 acres of Mafic Chaparral located on the project site, the proposed project would preserve all 57.4 acres in Biological Open Space. There would be no other offsite impacts to Mafic Chaparral. Therefore impacts would be less than significant.

Non-native Grassland

Of existing 23.2 acres of Non-native Grassland onsite, the development footprint would result in removal of 17.6 acres, fuel modification would occur on 1.9 acres, while placing 3.7 acres in Biological Open Space. Additionally, approximately 1.2 acres of this habitat would be impacted by off-site improvements to Deer Springs Road.

Impact Bio-1c – Project related impacts to 20.7 acres of Non-native Grassland would be significant.

Freshwater Marsh

The project would result in no impacts to Freshwater Marsh; all of the existing 0.1 acre of habitat would be preserved in the Biological Open Space. There would be no other offsite impacts to Freshwater Marsh. Therefore impacts would be less than significant.

South Coast Live Oak Riparian Forest

Of existing 2.3 acres of South Coast Live Oak Riparian Forest onsite, the development footprint would result in removal of 1.1 acres, fuel modification would occur on 0.1 acres and 0.1 acres would be impacted by development of Meadow Park Lane. None of this habitat will be placed in Biological Open Space.

Impact Bio-1d – Project related impacts to 1.3 acres of South Coast Live Oak Riparian Forest would be significant.

Sycamore Alluvial Woodlands

Of the existing 1.6 acres of Sycamore Alluvial Woodlands onsite, the project would result in no impacts to Sycamore Alluvial Woodlands. The proposed project would preserve all 1.6 acres in the Biological Open Space. No impacts would occur off site. Therefore impacts would be less than significant.

Southern Willow Scrub/Mule Fat Scrub

Of the existing 0.3 acres Southern Willow Scrub/Mule Fat Scrub onsite, the project would result in impacts to 0.3 acres onsite with none of this habitat placed in Biological Open Space. There would be no offsite impacts.

Impact Bio-1e – Project related impacts to 0.3 acres of Southern Willow Scrub/Mule Fat Scrub would be significant

Mule-Fat Scrub

Of the existing 0.2 acre of Mule-Fat Scrub onsite, the project would result in impacts to 0.2 acre within the fuel modification area. There would be no other offsite impacts to Mule-Fat Scrub.

Impact Bio-1f – Project related impacts to 0.2 acre of Mule Fat Scrub would be significant.

Southern Willow Scrub

Of the existing 2.6 acres of Southern Willow Scrub onsite, the development footprint would result in removal of 0.2 acres and fuel modification would occur on 0.1 acres. No other offsite impacts would occur.

Impact Bio-1g- Project related impacts to 0.3 acres of Southern Willow Scrub would be significant.

Southern Willow Scrub/Tamarisk Scrub

The project would result in no impacts to Southern Willow Scrub/Tamarisk Scrub, placing 0.6 acres in Biological Open Space. No offsite impacts would occur. Therefore impacts would be less than significant.

Coast Live Oak Woodland

Of the existing 4.2 acres of Coast Live Oak Woodland, the development would result in removal of 1.0 acre, fuel modification would occur on 1.1 acres and 0.2 acre would be impacted through development of secondary access roads while placing 1.9 acres in Biological Open Space. Additionally, no acres would be impacted by off-site improvements to Deer Springs Road. Impacts to 0.1 acre of Coast Live Oak Woodland associated with a stream would occur due to improvements along Deer Springs Road.

Impact Bio-1h - Project related impacts to 2.4 acres of Coast Live Oak Woodland would be significant.

Non-Vegetated Channel and Unvegetated Wetlands

Offsite roadway improvements associated with Deer Springs Road would result in the loss of 0.8 acre of Non-vegetated channel. In addition onsite development would impact 0.1 acres of unvegetated wetlands.

Impact Bio-1i – Project related impacts to 0.8 acres of Non-vegetated channel and 0.1 acres of unvegetated wetlands would be significant.

Summary of Project Effects:

The large site (2,327 acres) is relatively homogeneous (92% of the site is Granitic Southern Mixed Chaparral). The following habitats would be substantially degraded as described in Guideline 3.1: Diegan Coastal Sage Scrub, Granitic Southern Mixed Chaparral, Non-native Grassland, Southern Coast Live Oak Riparian Forest, Southern Willow Scrub/Mule Fat Scrub, Mule Fat Scrub, Southern Willow Scrub, Coast Live Oak Woodland, unvegetated wetlands and Non-vegetated channel (no impacts would occur to Mafic Chaparral, Freshwater Marsh, Sycamore Alluvial Woodland and Southern Willow Scrub/Tamarisk Scrub). Loss of functioning habitats is regarded as a significant impact (see Impact BIO-1a through BIO-1i).

Mitigation Measures and Design Considerations

Project Design Considerations

The project design includes 1,192 acres of biological open space, enveloping approximately 80 percent of the eastern border of the site along Interstate 15, the majority of the northern half of the ownership, as well as substantial connection with open habitats to the San Marcos Mountains to the west. This design preserves and maintains a large, intact section of the chaparral ecosystem, along with other habitats and maintains existing ecological connections to surrounding blocks of native habitats.

Mitigation Measures

M-BIO-1 Resource/Habitat Management Plan Requirement

The Merriam Mountains Resource Management Plan shall be implemented in conjunction with project implementation. Resource Management Plan features specifically related to the significant impact associated with the loss of natural habitat on the project site include the following:

Objective B-1: Include large blocks of key biological resource areas within the

Merriam Biological Open Space

- Include within the Merriam Biological Open Space 1,192 acres of natural habitat, representative populations of sensitive plant species and animals species observed on site, existing dirt trails and canyon bottoms currently used by wildlife for movement across the site and the north/south trending tributary to Gopher Canyon along Twin Oaks valley Road providing linkage opportunities to the San Marcos Mountains.

Objective B-3: Provide resource management for the offsite mitigation area.

- Provide mitigation for impacts to coastal sage scrub and the California Gnatcatcher consistent with the October 2005 Points of Agreement, consisting of acquiring the 32-acre Captains Associate property, which will be incorporated into the County's North County MSCP preserve system and will be protected and managed consistent with management regimes established by the County as part of the draft North County MSCP.

Objective B-5: Track changes in the physical and biological conditions in Biological Open Space to determine active management strategies;

- Provide regular site inspections by the habitat manager which include recording and mapping changes in the biological and physical environment that may affect the Biological Open Space biological integrity.

Objective B-6: Prevent Habitat Degradation, and

- The following shall be prohibited in the Biological Open Space: grading, placement of structures, grazing, dumping, and vegetation removal. Provide for various potentially adverse effects of human use within the Biological Open Space through trash removal, preventing squatting, use of firearms for hunting and poaching/collecting.

Objective B-12: Protect Critical Biological Resources during Construction

- Install conspicuous temporary construction fencing in all locations of the project where proposed grading or clearing is within 100 feet of the Biological Open Space, Other Open Space, or offsite native vegetation.
- Employ a construction monitor to perform the following duties: be on site weekly during vegetation clearing, grubbing, and grading, when these activities are within 300 feet of biological open space or offsite native vegetation to insure that all habitat protection measures are in place; inspect fencing and erosion control measures adjacent to preserved areas a minimum of once per week and daily during rain events and report deficiencies immediately to the DPW Construction Inspector; periodically monitor the work area for excessive dust generation; train contractors and

construction personnel, including the purpose for resource protection, a description of the gnatcatcher and its habitat, and the conservation measures that should be implemented during project construction; halt work when deficiencies require mediation; notify DPW Construction Inspector within 24 hours if it is necessary to halt work; produce weekly reports to keep at the project site; produce a final report at the completion of each phase or unit and submit to the Director of Planning and Land Use; confer with the Wildlife Agencies within 24 hours any time protected habitat or endangered species are being affected by construction; determine if nesting migratory birds will be affected by clearing and grading and direct construction activities away from nesting areas; and be responsible for notification and oversee remediation if impacts to preserved habitat should occur.

- Restrict all brushing and clearing such that none will be allowed within 100 feet of native or naturalized habitats during the migratory bird breeding season, unless the Biological Monitor determines that no migratory bird nests will be affected. This is defined as occurring from February 1 through August 31.

M-BIO-1a Diegan Coastal Sage Scrub Mitigation:

Impacts to 27.3 acres Diegan Coastal Sage Scrub shall be mitigated at a ratio of 2:1 by a combination of: onsite preservation of 5.5 acres of Diegan Coastal Sage Scrub in the Biological Open Space; acquisition of Captains Associate Parcel (32 acres); and a Coastal Sage Scrub/Grassland mosaic restoration onsite in accordance with the Merriam Mountains' Uplands and Wetlands Conceptual Revegetation Plan (Appendix X of the EIR). The Hardline Points of Agreement concluded that the Wildlife Agencies agree to consider the Captains Associate parcel as adequate MCSP mitigation for Diegan Coastal Sage Scrub impacts to contribute to the assembly of the draft NCMSCP preserve.

M-BIO-1b Southern Mixed Chaparral Vegetation Mitigation

Impacts to 1079.2 acres of Southern Mixed Chaparral vegetation shall be mitigated at a ratio of 0.5:1 by the project design places 1091.6 acres of Southern Mixed Chaparral vegetation in Biological Open Space, in accordance with the requirements of the Merriam Mountains' RMP.

M-BIO-1c Non-native Grassland Vegetation Mitigation

The loss of 20.7 acres of Non-native Grassland shall be mitigated at a ratio of 0.5:1 by the combination of onsite preservation in Biological Open Space (3.7 acres), and through creation/enhancement within the Biological Open Space prior to issuance of grading permits, in accordance with the Merriam Mountains' Uplands and Wetlands Conceptual Revegetation Plan

(Appendix X to the EIR).

M-BIO-1d Southern Coast Live Oak Woodland Riparian Forest Mitigation

Impacts to 1.3 acres of Southern Coast Live Oak Woodland Riparian Forest shall be mitigated offsite by creation/enhancement at a 3:1 ratio at an offsite location prior to issuance of grading permits, in accordance with the Merriam Mountains' Uplands and Wetlands Conceptual Revegetation Plans (Appendix X to the EIR).

M-BIO-1e Southern Willow Scrub/Mule Fat Scrub Mitigation

Impacts to 0.3 acres of Southern Willow Scrub/Mule Fat Scrub shall be mitigated onsite by restoration/enhancement at a 3:1 ratio at the abandoned airstrip location (see Figures 13a through 13c) prior to issuance of grading permits, in accordance with the Merriam Mountains' Uplands and Wetlands Conceptual Revegetation Plans (Appendix X to the EIR)

M-BIO-1f Mule Fat Scrub Mitigation

Impacts to 0.2 acres of Mule Fat Scrub shall be mitigated onsite by restoration/enhancement at a 3:1 ratio at the abandoned airstrip location (see Figures 13a through 13c) prior to issuance of grading permits, in accordance with the Merriam Mountains' Uplands and Wetlands Conceptual Revegetation Plans (Appendix X to the EIR).

M-BIO-1g Southern Willow Scrub Mitigation

Impacts to 0.3 acres of Southern Willow Scrub shall be mitigated onsite by restoration/enhancement at a 3:1 ratio at the abandoned airstrip location (see Figures 13a through 13c) prior to issuance of grading permits, in accordance with the Merriam Mountains' Uplands and Wetlands Conceptual Revegetation Plans (Appendix X to the EIR).

M-BIO-1h Coast Live Oak Woodland Mitigation

Impacts to 2.4 acres of Coast Live Oak Woodland shall be mitigated at a 3:1 ratio by the combination of onsite preservation and restoration in Biological Open Space (see Figures 13a through 13c) and by identifying an offsite location prior to issuance of grading permits, in accordance with the Merriam Mountains' Uplands and Wetlands Conceptual Revegetation Plans (Appendix X to the EIR).

M-BIO-1i Non-vegetated Channel and Unvegetated wetlands

Impacts to 0.8 acres of Non-vegetated channel shall be mitigated onsite at a 1:1 ratio and 0.1 acres of unvegetated wetlands shall be mitigated onsite at a 3:1 ratio at the abandoned airstrip location (see Figures 13a through 13c) prior to issuance of grading permits, in accordance with the Merriam Mountains' Uplands and Wetlands Conceptual Revegetation Plans (Appendix X to the EIR).

Conclusions

Based on the analysis presented above, it has been determined that the impact exceeds Significance Guideline 3.1, which states impacts would be significant if the proposed project would result in the loss of ***"****A block of substantially native habitat considered essential to the naturally-functioning local or subregional or regional biological environment will be eliminated or substantially degraded such that it no longer provides comparable biological function(s) or value(s).****"*** Therefore impacts would be significant through removal of native habitat through both onsite and offsite improvements. However, elements of the project design including the 1,192 acre Biological Open Space and conditioning the project to require mitigation measures M-BIO-1, M-BIO-1a, M-BIO-1b, M-BIO-1c, M-BIO-1d, M-BIO-1e, M-BIO-1f, M-BIO-1g, M-BIO-1h, and M-BIO-1i, would reduce the impacts to a less than significant level. Impacts would be reduced to a level below significance through creation/enhancement of impacted vegetation. Onsite creation/enhancement would be located at the onsite abandoned airstrip for willow scrub wetlands. An offsite purchase would be completed for oak riparian wetlands impacts, purchase of 32 acre Captains Associate parcel plus Coastal Sage Scrub/Grassland mosaic restoration onsite at quarry and airstrip for impacts to coastal sage scrub. Impacts to Non-native Grassland plant palette would be reduced to a level below significance through creation in the fuel modification area. Impacts to Coast Live Oak Woodland would be reduced to a level below significance through enhancement/creation onsite within the fuel modification area.

Through preservation revegetation onsite or offsite purchase impacts are reduced to a level below significance because (1) the most rare habitats regionwide, are mitigated at a higher ratio while more common habitats are mitigated, regionwide, are mitigated at a lower ratio, (2) conditions of approvals will require that mitigation land will be of like kind and value (3) the mitigation land will be preserved and managed in perpetuity, and (4) restoration/creation of habitats will occur within proximity to the project to contribute to naturally functioning ecosystem.

Through preservation revegetation onsite or offsite purchase impacts are reduced to a level below significance because (1) the most rare habitats regionwide, are mitigated at a higher ratio while more common habitats are mitigated, regionwide, are mitigated at a lower ratio, (2) conditions of approvals will require that mitigation land will be of like kind and value (3) the

mitigation land will be preserved and managed in perpetuity, and (4) restoration/creation of habitats will occur within proximity to the project to contribute to naturally functioning ecosystem.

3.2 IMPACTS TO LONG-TERM HEALTH AND VIABILITY OF THE ECOSYSTEM

The natural biological diversity and habitat associations are not being preserved in a contiguous, functional habitat area, thereby compromising the long-term health and viability of the ecosystem

Similar to Guideline 3.1, Guideline 3.2 is associated with preservation of contiguous blocks of open space consistent with accepted conservation biology principles.

Project Impact Evaluation:

As discussed in Guideline 3.1, above, the project would impact approximately 48 % of naturally functioning habitats on site, while retaining approximately 52% in a natural preserve, in a generally contiguous, functional habitat area. The Biological Open Space would be configured as a large habitat block in the northern portion of the property, traversed only by a secondary access road (Lawrence Welk Court) and a gated, emergency access route (Camino Mayor). Recreational use of the Biological Open Space preserve will be limited to trails along the existing dirt pathways and trail overlooks as noted in the Merriam Mountains Specific Plan.

This Biological Open Space displays a relatively compact and intact shape, encompassing a majority of the northern portion of the site. Additionally, with most of the fuel modification areas that will retain elements of their native vegetation, more than 80% of the I-15 frontage, including the majority of the steep slopes and canyons adjacent to I-15 would retain some wildlife function and diversity. The intactness of the northern portion is considered good with only one road to provide access to and from the southern areas proposed for development (generally following an existing dirt road), while some of the existing dirt roads would be retained for utility access and recreational trail uses.

Preservation of natural habitats within the Merriam Mountains and linking them with the San Marcos Mountains has been identified by Wildlife Agencies and County as desirable to conserving biological diversity in Northern San Diego County. Both the Merriam Mountains and the San Marcos Mountains have been identified as Resource Conservation Areas (RCAs) in the County General Plan and these areas have also been identified as biological core areas in studies for the draft North County MSCP. The Biological Open Space preserve proposed by the project would provide core habitat in the Merriam Mountains, contributing to preservation of biological diversity in the North County area.

The project would result in a loss of 1.2 acres (48%) of the onsite Southern Coast Live

Oak Riparian Forest habitat, plus an additional 0.1 acre of this habitat off site. Impacts to Coast Live Oak Woodland would include a loss of 1.0 acre within the development area, 1.1 acres within the fuel modification area and 0.2 acre along access roads. Although these habitats represent approximately 1% and 0.2% of the total onsite habitats, they tend to support disproportionately higher wildlife habitat diversity. As discussed in Guideline 3.1, impacts to these habitats would be significant.

The project would result in the loss of approximately 23.1 acres (81%) of the on site Diegan Coastal Sage Scrub habitat, plus 4.3 acres of this habitat off site. The project would result in the loss of approximately 19.5 acres of Non-native Grassland (84%), plus an additional 1.4 acres offsite. One unique species using these habitats is the Coastal California Gnatcatcher. The removal of species would decrease species diversity of the site but the long term health and viability of the ecosystem would be retained. Both these habitats typically support a different suite of plants and wildlife compared to Granitic Southern Mixed Chaparral, the dominant habitat on the site (2156.6 acres of 92% of the site), these former habitats together represent less than 2%. Although these habitats are being impacted by the project, Non-native Grassland is being recreated elsewhere on the project site and Diegan Coastal Sage Scrub is being purchased and preserved within several miles of the project site, these mitigation will maintain the long term health and viability of the ecosystem.. Thus, it is determined that the loss of these two habitat types alone does not represent a significant impact to biological diversity of the site or region.

Summary of Project Effects

Implementation of the proposed project would result in disturbance of about 48 percent of the natural habitats onsite, including 538 acres of development area, 537 acres of Other Open Space subject to fuel modification and 60 acres of secondary/emergency access roads within Biological Open Space. Impacts to biological diversity will occur as a result of removing localized pockets of Coast Live Oak Woodland, Diegan Coastal Sage Scrub and Non-native grassland, which represent approximately 1%, 2% and 0.2% of the total onsite habitats. These areas tend to support disproportionately higher wildlife habitat diversity. Although these habitats typically support a different suite of plants and wildlife compared to Granitic Southern Mixed Chaparral, the dominant habitat on the site, these former habitats together do not contribute significantly to the average biological diversity per acre of the site because of the strong dominance of Southern Mixed Chaparral (92% onsite).

Impact Bio-2– Project-related impacts to the natural biological diversity would be significant for loss of Coastal Sage Scrub, Coast Live Oak Woodland and Non-native grassland species.

Mitigation Measures and Design Considerations

Project Design Considerations

The proposed project would result in impacts to both wetlands and uplands habitats as discussed in Guidelines 3.1 and 3.2 above. Creation/enhancement of impacted vegetation communities will be provided for both upland and wetland habitat as identified in the Uplands and Wetlands Conceptual Revegetation Plans (see Appendix X – Merriam Mountains EIR). The plan includes the grading and planting requirements for the mitigation/revegetation areas, Conceptual Mitigation and Monitoring Plan, Final Revegetation Construction Documents, Implementation Requirements, Maintenance Requirements, Monitoring Requirements, Long-term Management and Success Standards Criteria for mitigation requirements for both wetlands and uplands habitats.

The proposed project design includes 1,192 acres of Biological Open Space in a configuration to preserve core habitat in the Merriam Mountains. The project includes a Resource Management Plan (RMP) that describes measures to manage and maintain the Biological Open Space in perpetuity to preserve natural biological diversity onsite.

Mitigation Measures

M-BIO-2 Resource Management Plan

The Merriam Mountains' RMP shall be implemented in conjunction with project implementation. RMP features specifically related to the significant impacts associated with the preservation of natural biological diversity on the project site include the following:

Objective B-1: Include large blocks of key biological resource areas within the Biological Open Space (see M-BIO-1)

Objective B-2: Enhance and restore sensitive resources within the Biological Open Space;

- Maintain revegetation/creation areas within the Biological Open Space as shown in the Conceptual Uplands and Wetlands Revegetation Plans (Appendix X). Maintain County/ACOE/CDFG wetlands within the Biological Open Space.

Objective B-4: Effectively manage the Biological Open Space to protect, maintain and enhance resources;

- Identify a Habitat Manager for the Biological Open Space and Captains Associate Parcel acceptable to the County. The manager shall maintain the integrity of the

preserved habitats, through monitoring for changes in the baseline conditions, annual reporting and updating the RMP every five years based on data collected during the annual reporting efforts.

Objective B-6: Prevent Habitat Degradation (see M-BIO-1)

Objective B-9: Identify and provide for permitted uses within the Biological Open Space consistent with the overall goal of resource protection.

- Recreation users shall be limited to trails, overlooks, and trailheads. No other recreation uses shall be permitted within the Merriam Biological Open Space. The habitat manager will regularly monitor trail use to identify unauthorized trails. Two secondary access roads (Lawrence Welk Court and Camino Mayor) shall be permitted within the Biological Open Space. Two water tanks (North Tank and Coogan Tank) exist on separate parcels bounded by the Biological Open Space. Fuel management activities shall be permitted along the secondary access roads located within the Biological Open Space.

Conclusions

Impacts from **"***The natural biological diversity and habitat associations are not being preserved in a contiguous, functional habitat area, thereby compromising the long-term health and viability of the ecosystem",* as identified in Significance Guideline 3.2, would be significant in the absence of conveyance and management of the Biological Open Space. Impacts associated with biological diversity being reduced onsite would be mitigated to a level below significance by features incorporated in the project design (preservation of 1,192 acres of Biological Open Space and the RMP), Conceptual Revegetation Plans and mitigation measure M-BIO-2 which requires implementation of the RMP. The identified impacts would be reduced to a level below significance because, taken together, the project design features (including preservation and enhancement of habitats as shown in the RMP), M-BIO-1 and M-BIO-2 would preserve core habitat in the Merriam Mountains as a large habitat preserve. The Biological Open Space would be preserved in perpetuity and managed according to the requirements of the Merriam Mountains RMP. Project impacts to biological diversity and habitat diversity have been reduced by the provision of 52 % of the site as Biological Open Space and adherence to an RMP, as well as onsite revegetation of Oak Woodlands and Non-native Grasslands to compensate for the loss of diversity as discussed in the Uplands and Wetlands Revegetation Plans (see Appendix X of the EIR) and purchase of the Captains Associate Property. Orderly conveyance and management of the Biological Open Space area, would reduce impacts associated with natural biological diversity to less than significant.

3.3 REMOVING FUNCTIONALLY-SUBSTANTIAL COMPONENT OF NATIVE HABITAT

ANY FUNCTIONALLY-SUBSTANTIAL COMPONENT OF NATIVE OR NATURALIZED HABITAT WILL BE REMOVED OR SUBSTANTIALLY IMPACTED THROUGH GRADING, CLEARING, AND/OR OTHER CONSTRUCTION ACTIVITIES

The removal of native or naturalized habitat through project-related activities, as described in Guideline 3.3, would directly affect habitat acreage and plant/animal species located therein, as well as potential impacts associated resources/uses such as species diversity, foraging, breeding and access.

Project Impact Evaluation:

Removal of native or naturalized habitat through grading and clearing has been adequately covered under Guidelines 3.1 and 3.2 (above). Potentially significant impacts were found to be mitigated to a less than significant level. This section addresses impacts to native or naturalized habitat from construction activities.

During construction activities, edge effects may include dust which could disrupt plant vitality in the short-term from construction-related activities. In addition, soil erosion and water runoff resulting from grading activities could impact vegetation onsite and adjacent properties. Adjacent land uses include large-lot single-family residences and avocado groves to the north, west, and south. Existing uses to the south of the site are separated from the site by Deer Springs Road. Existing uses to the east of the site are separated from the site by I-15. Sensitive vegetation communities or sensitive plants that are planned for vegetation onsite could be potentially impacted during construction activities. Therefore, the potential for short-term or construction-related impacts resulting from the proposed project through grading, clearing and/or other construction activities would be significant.

Impact Bio-3 – Project related impacts for short-term or construction related impacts to native and naturalized habitats would be significant.

Summary of Project Effects

During construction activities impacts resulting from *"Any functionally-substantial component of native or naturalized habitat will be removed or substantially impacted through grading, clearing, and/or other construction activities"* would be significant because edge effects may occur through dust which could disrupt plant vitality or construction-related soil erosion and water runoff.

Mitigation Measures and Design Considerations

Project Design Considerations

The proposed project design includes 1,192 acres of Biological Open Space, enveloping much of the eastern border of the site along Interstate 15 and the majority of the northern half of the ownership. The project includes a Resource Management Plan that would include construction measures to minimize edge effects to the Biological Open Space during construction.

Mitigation Measures

M-BIO-3 Resource Management Plan Requirement

The Merriam Mountains' RMP shall be implemented in conjunction with project implementation. RMP features specifically related to construction impacts to native or naturalized habitat that would be preserved on the site include the following:

> Objective B-12: Protect Critical Biological Resources from Impacts during Construction (see M-BIO-1).

Conclusions

Impacts to natural and naturalized habitats, as identified in Significance Criteria 3.3, would be significant during construction. The identified impacts would be mitigated to a level below significance through features incorporated in the Resource Management Plan through implementation of the above measures, because inadvertent dust, noise, erosion, and human/vehicle-caused damage would be avoided.

3.4 SIGNIFICANT DEGRADATION OF HABITAT BECAUSE OF DECREASE IN SPECIES FACTORS OR BIOLOGICAL VALUE AND FUNCTIONING OF HABITAT

The value of a substantial stand of native habitat will be "moderately to significantly" degraded either immediately or in the long-term as indicated by one of the following:

A. A substantial decrease in species composition, diversity, or abundance
B. A substantial decline in the biological value or function of the habitat

Guideline 3.4 is intended to protect the functions and values of habitat areas from direct and indirect project-related effects as well as to maintain a high species diversity and/or abundance within the provided open space areas.

Project Impact Evaluation:

Due to the high degree of habitat homogeneity of the site (92% of the site is unburned Granitic Southern Mixed Chaparral), the 48% reduction in native habitats proposed by the project would not result in a substantial degradation of habitat.

The project would result in a 48% decrease in biological function because that amount of habitat would be lost to other uses; however, the overall value of the remaining habitats would not be reduced substantially because the proposed project design includes 1,192 acres of managed Biological Open Space, in a configuration to preserve core habitat in the Merriam Mountains, enveloping much of the eastern border of the site along Interstate 15, the majority of the northern half of the ownership, as well as substantial connection with open habitats to the San Marcos Mountains to the west. This design would allow the primary off-site ecological connections to preserve existing ecological functions. The project includes a Resource Management Plan (RMP) that describes measures to monitor and maintain the preserve in perpetuity that would preserve 1,192 acres of habitat value onsite.

Impacts to the overall value of the natural habitats onsite and offsite, as identified in Significance Criteria 3.4, are less than significant because the Biological Open Space would be preserved in perpetuity and managed according to the requirements of the Merriam Mountains RMP, the Biological Open Space would maintain a high biological value and function as a result of design measures incorporated into the proposed project, the Biological Open Space will be preserved and managed in perpetuity, restoration/creation of habitats will largely occur within the Biological Open Space to contribute to the naturally functioning ecosystem, and the project would preserve core habitat in the Merriam Mountains as a large habitat preserve.

Summary of Project Effects

As mentioned above impacts to the overall value of the natural habitats onsite and offsite, as identified in Significance Criteria 3.4, are less than significant because the Biological Open Space would be preserved in perpetuity and managed according to the requirements of the Merriam Mountains RMP.

Mitigation Measures and Design Considerations

Project Design Considerations

The proposed project design includes 1,192 acres of Biological Open Space, enveloping much of the eastern border of the site along Interstate 15 and the majority of the northern half of the ownership. The project includes a Resource Management Plan that would maintain a high

biological value and function as a result of design measures incorporated into the proposed project.

Mitigation Measures

None

Conclusions

Impacts to the overall value of the natural habitats onsite and offsite, as identified in Significance Criteria 3.4, are less than significant because the Biological Open Space would be preserved in perpetuity and managed according to the requirements of the Merriam Mountains RMP, the Biological Open Space would maintain a high biological value and function as a result of design measures incorporated into the proposed project, the Biological Open Space will be preserved and managed in perpetuity, restoration/creation of habitats will largely occur within the Biological Open Space to contribute to the naturally functioning ecosystem, and the project would preserve core habitat in the Merriam Mountains as a large habitat preserve.

3.5 COUNTY WETLANDS IMPACTS

ANY OF THE FOLLOWING WILL OCCUR TO OR WITHIN COUNTY-DEFINED WETLANDS: SUBSTANTIAL REMOVAL OF ASSOCIATED VEGETATION; GRADING; OBSTRUCTION OR DIVERSION OF WATER FLOW; CHANGE IN VELOCITY OR SILTATION RATE; PLACEMENT OF FILL; PLACEMENT OF STRUCTURES; CONSTRUCTION OF A ROAD CROSSING; PLACEMENT OF CULVERTS OR OTHER UNDERGROUND PIPING; ANY DISTURBANCE OF THE SUBSTRATUM; AND/OR ANY ACTIVITY THAT MAY CAUSE A CHANGE IN SPECIES COMPOSITION, DIVERSITY, AND ABUNDANCE.

The federal, state and county requirements identified in Guideline 3.5 include goals and objectives intended to protect wetlands. Compliance with the referenced laws and regulations is required. The agencies responsible for enforcing these laws and regulations are responsible agencies with respect to this EIR, including the CDFG and ACOE. These agencies and/or the laws and regulations they enforce are specifically referenced in the CEQA Guidelines, Appendix G.

Project Impact Evaluation:

The proposed project would avoid and minimize impacts to wetlands with the exception of 2.1 acres of wetland for which impacts are unavoidable. Unavoidable onsite impacts include Mule-fat Scrub (0.2 acre), Oak Riparian Forest (1.2 acres), Southern Willow Scrub (0.3 acre), Southern Willow Scrub/Mule-fat scrub (0.3 acre) and unvegetated wetlands (0.1 acre) (see

Table 7). Onsite unavoidable wetland impacts would include impacts within the development footprint, offsite impacts and oak riparian forest impacts associated with crossings due to construction of Meadow Park Lane. Unavoidable offsite impacts include 0.9 acre associated with offsite improvements to Deer Springs Road, a circulation element roadway required to be improved as part of the project.

As discussed above and in Guideline 3.1, impacts to mule-fat scrub, oak riparian forest, southern willow scrub, southern willow scrub/mule fat scrub, unvegetated channel and unvegetated wetlands would be significant. The project is designed to minimize impacts to County wetlands; however, impacts would occur due to consolidation of development in the southern portion of the site to provide for the configuration of the Biological Open Space as a large block of habitat in the northern portion of the site.

The project will not result in obstruction or diversion of water flow or change in velocity or siltation rate in any of the drainage basins.

Summary of Project Effects

Significant impacts to County-defined wetlands including "substantial removal of associated vegetation; grading; obstruction or diversion of water flow; change in velocity or siltation rate; placement of fill; placement of structures; construction of a road crossing; placement of culverts or other underground piping; any disturbance of the substratum; and/or any activity that may cause a change in species composition, diversity, and abundance" would occur to 2.1 acres of wetlands. The project is designed to minimize impacts to County wetlands; however, impacts would occur due to consolidation of development in the southern portion of the site to provide for the configuration of the Biological Open Space as a large block of habitat in the northern portion of the site. Impacts would occur to 2.1 acres of RPO wetlands, which includes 2.0 acres of ACOE/CDFG wetlands. The loss of wetlands, are regarded as a significant impact. In addition impacts would occur to 0.9 acres of RPO wetlands offsite which is regarded as a significant impact.

Impact Bio-4 – Project related impacts to 2.1 acres of RPO Wetlands onsite and 0.9 acres offsite along Deer Springs Road would be significant.

Mitigation Measures and Design Considerations

Project Design Considerations

The project design minimizes impacts to wetlands by implementing special design and construction techniques, including the use of retaining walls to reduce intrusions to wetlands. In addition impacts to wetlands have been minimized by retaining 1192 acres of the site in

Biological Open Space and siting and aligning development onsite and offsite in the southern portion of the site to avoid wetlands where possible. A particular example includes aligning and constructing offsite improvements to Deer Springs Road to avoid and minimize wetland impacts south of the proposed roadway as well as alignment for project entrances and Merriam Mountains Parkway and Meadow Park Lane to avoid and minimize impacts to wetlands.

The project also results in preservation of 5.9 acres of wetlands in the Biological Open Space, with the RMP providing long-term management.

Mitigation Measures

M-BIO-4 Resource Management Plan Required

The Resource Management Plan contains specific management guidelines to address preservation and enhancement of wetlands, including the following:

Objective B-2: Enhance and restore sensitive resources within the Merriam Biological Open Space (see M-BIO-2).

Objective B-12: Protect Critical Biological Resources during Construction (see M-BIO-1).

M-BIO-4a Wetlands and Jurisdictional Area Mitigation

The project tentative maps and grading permits shall be conditioned to obtain the following permits (as appropriate) prior to any clearing, grubbing, ground disturbance or grading of any tentative map area of the site: ACOE 404 permit, Regional Water Quality Control (RWQCB) 401 permit, and/or CDFG Code 1600 Streambed Alteration Permit (SAA).

M-BIO-1d Southern Coast Live Oak Woodland Riparian Forest Mitigation.

M-BIO-1e Southern Willow Scrub/Mule Fat Scrub Mitigation.

M-BIO-1f Mule Fat Scrub Mitigation.

M-BIO-1g Southern Willow Scrub Mitigation.

Conclusions

Based on the analysis presented above, it has been determined that impacts to County-defined and other wetlands, as identified in Significance Criteria 3.5, would be significant.

However, elements of the project design (preservation of 5.9 acres of wetlands in the Biological Open Space and management provided by the RMP) and conditioning the project to require mitigation measures M-BIO-4, M-BIO-4a (which requires permits and creation/enhancement measures prior to impacts), M-BIO-1d, M-BIO-1e, M-BIO-1f and M-BIO-1g (which require creation/enhancement of impacted wetlands) would reduce the impacts to a less than significant level because impacts to wetlands are mitigated at 3:1 ratio, conditions of approval will require mitigation land will be preserved and managed in perpetuity, and restoration/creation of habitats will occur within proximity to the project to contribute to naturally functioning ecosystem. Through impacted vegetation communities' revegetation onsite or through an offsite purchase as discussed in Appendix X to the EIR, impacts would be reduced to a level below significance because the mitigation would be held to the "no net loss" standard of 3:1, because the mitigation would occur in proximity to the impacts, and because no long-term reduction in species composition, diversity, or abundance will occur.

4.0 WILDLIFE MOVEMENT IMPACTS

4.1 WILDLIFE CORRIDOR AND LINKAGES

Project-related improvements or activities within or adjacent to local wildlife corridors, subregional or regional linkages, or other areas utilized for wildlife movement will:

a. Prevent substantial numbers of wildlife from accessing areas considered necessary to their survival (i.e., foraging resources, breeding areas, necessary water sources, etc.);

b. Restrict substantial numbers of wildlife from utilizing their natural movement patterns (i.e., those path-ways used when given the choice absent human interference); or

c. Further constrain a narrow wildlife corridor by reducing width, removing available vegetative cover, creating substantially adverse edge effects, or placing barriers in the movement path;

d. Create artificial corridors that do not functionally connect already utilized core habitat areas or existing linkages.

The criteria related to wildlife movement identified in Guideline 4.1 are intended to protect such areas due to their role in meeting species life history requirements and incorporate the use of site-specific factors, consistent with conservation biology principles. CEQA Guidelines Appendix G indicates that a project could have a significant impact if it would "interfere substantially with the movement of any native resident or wildlife species or with established native resident or migratory wildlife corridors."

Project Impact Evaluation:

The biological assessment and preliminary wildlife movement study for the project site indicates that the site is fairly homogeneous in terms of vegetation (92% of the site is unburned Granitic Southern Mixed Chaparral); however, the site has varied topography, with substantial areas of steep slopes. There are no major sources of surface water besides a small section of an unnamed creek adjacent to Twin Oaks Valley Road and seasonal drainage flows in the Merriam Valley area of the northeast quadrant of the site. Medium to large sized mammal species probably rely on the extensive network of dirt roads and trails to forage and move within the site. The Inner Meadow area in the southern part of the site is the only large (20± acres) open Non-native Grassland area likely used for raptor foraging. The only narrow wildlife corridor identified on the site is the approximately 0.5 mile wide frontage along Twin Oaks Valley Road, where the sites connects to the San Marcos Mountains to the west. Because the proposed project design leaves the majority of the northern part of the site in a Biological Open Space (except for the estate lot area), it is likely that the site could still be used by Mountain Lions and Mule Deer, if they still occur in the area. Preservation of the major linkage to the San Marcos Mountains would still allow such wildlife species to move in and out of the project area.

As discussed in Guidelines 3.1, above, the project would impact approximately 48% of the native and non-native habitats on site, while retaining the remaining vegetation in a natural preserve, in a generally contiguous, functional habitat area. The Biological Open Space would be configured as a large habitat block in the northern portion of the property, traversed only by a secondary access road (Lawrence Welk Court) and a gated, emergency access route (Camino Mayor). Recreational use of the Biological Open Space preserve will be limited to trails along the existing dirt pathways and trail overlooks as noted in the Merriam Mountains Specific Plan.

This Biological Open Space displays a relatively compact and intact shape, encompassing the northern portion of the site. Additionally, the Biological Open Space and other open space areas includes more than 80% of the I-15 frontage, including the majority of the steep slopes and canyons adjacent to I-15. Note that the Biological Open Space area includes only one road that provides access to and from the southern areas proposed for development (generally following an existing dirt road) and some of the existing dirt roads would be retained for utility access and recreational trail uses.

Preservation of natural habitats with in the Merriam Mountains and linking them with the San Marcos Mountains has been identified as desirable to conserving biological diversity in Northern San Diego County. Both the Merriam Mountains and the San Marcos Mountains have been identified as Resource Conservation Areas (RCAs) in the County General Plan and these areas have also been identified as biological core areas in studies for the draft North County MSCP.

On a subregional level, the string of Coastal Sage Scrub habitats along Interstate 15, particularly between SR 76 and SR 78, probably is used by sage scrub-dependent species such as the California Gnatcatcher inhabit these habitats and move longitudinally and laterally away from the corridor. The gnatcatcher pair identified on the project site at the north end of Mesa Rock Road is probably part of this corridor population, as is a historic Gnatcatcher location in Caltrans right of way near the mouth of Merriam Valley. The project proposes to remove the Mesa Rock Road gnatcatcher habitat (during the non-nesting period) and purchase and preserve an occupied gnatcatcher habitat along the east side of I-15, near the Circle-R Ranch.

A) Prevent substantial numbers of wildlife from accessing areas considered necessary to their survival (i.e., foraging resources, breeding areas, necessary water sources, etc.)

The only sources of permanent natural water on the site appear to be the south fork of Gopher Canyon, west of Twin Oaks Valley Road and a riparian canyon draining from the eastern one-half of the site to a culvert under I-15. However, wide-ranging wildlife may use leaking agricultural water sources in adjacent groves. The project design maintains the only onsite areas of permanent water (along Twin Oaks Valley Road and the western canyon, Merriam Valley) both of these areas and access to them along the east, north and western portions of the site within the Biological Open Space. Thus the project does not prevent access to substantial numbers of wildlife from accessing these and other areas necessary for their survival. Impacts would be less than significant. Notable foraging resources and breeding areas other than the above mentioned and water resources for amphibian breeding are not known from the site.

B) Restrict substantial numbers of wildlife from utilizing their natural movement patterns (i.e., those path-ways used when given the choice absent human interference;

The site contains areas that function both as subregional and local wildlife corridors and linkages. The project site is a large block of relatively undisturbed habitat bounded on the east by I-15 and connected on the west to the relatively undeveloped San Marcos Mountains. However, to the north and south, the site is generally bounded by agricultural lands with limited wildlife habitat and corridor function. The project design preserves the majority of the northern half of the site, including most of the frontage along I-15, interconnecting dirt roads, and a major connection to the San Marcos Mountains. These areas are preserved to allow continued wildlife use and movement to connect to existing trails around development areas to retain the wildlife use of these trails for local wildlife movement, therefore impacts would be less than significant.

C) Further constrain a narrow wildlife corridor by reducing width, removing available vegetative cover, creating substantially adverse edge effects, or placing barriers in the movement path;

The project design allows individual and genetic interchange from an east to west direction because it retains more than 60% of the nearly three mile frontage with I-15 as natural preserve, contiguous connections through the project site and by maintaining the existing undeveloped nature of most of the 0.3 mile frontage. Additionally, the design maintains substantial habitat connection with Merriam ownership along Twin Oaks Valley Road and the San Marcos Mountains and thereby retaining the potential for wildlife movement between the Merriam and San Marcos Mountains. Therefore, the existing subregional connection from east to west (Merriam Mountains to San Marcos Mountains) is substantially maintained. Because of existing agricultural and large-lot residential uses, there is probably little wildlife movement south of the site; therefore, impacts would be less than significant.

D) Create artificial corridors that do not functionally connect already utilized core habitat areas or existing linkages.

Lawrence Welk Court is proposed as a two-lane access road from the southern development area, through the central and eastern portion of the northern part of the site, joining the existing Lawrence Welk Court. This road would have a relatively low traffic volume estimated at 320 average daily trips. This road will cause some wildlife mortality and thus act as barrier to wildlife moving east and west through the central portion of the site. This barrier is limited because of the relatively low trip count and because vehicle trips would be more frequent in the daytime hours when wildlife is typically less active. While the project design maintains wildlife corridors and linkages from east to west and to the north, it limits such movement in the southern part of the site by developing large blocks of residential land uses that are relatively impermeable to wildlife movement. Although east-west wildlife movement is already limited by steep slopes and north-south oriented canyons, it will be further limited by residential development areas. The proposed project would limit wildlife movement within the site by directly removing 48 percent of the native and naturalized habitats and redirecting animal movement from existing trails to new connecting trails and to and from new wildlife underpasses. This impact is considered significant.

Impact Bio-5 – The proposed project would limit wildlife movement within the development footprint by directly removing native and naturalized habitats and redirecting animal movement from existing trails to new connecting trails.

Summary of Project Effects:

Significant impacts resulting from "*Project-related improvements or activities within or adjacent to local wildlife corridors, subregional or regional linkages, or other areas utilized for wildlife movement.*" would be significant as wildlife movement within the site will be restricted

by directly removing 48% of the native and naturalized habitats and redirecting animal movement from existing trails being interrupted.

Mitigation Measures and Design Considerations

Project Design Considerations

The proposed project design includes 1,192 acres of Biological Open Space, enveloping much of the eastern border of the site along Interstate 15, the majority of the northern half of the ownership, as well as substantial connection with open habitats to the San Marcos Mountains to the west which maintain existing local wildlife corridors as well as subregional linkages utilized for wildlife movement. Additionally, the project proposes perpetual monitoring and maintenance of the open space areas through provision of the Resource Management Plan.

Mitigation Measures

M-BIO-5 Resource Management Plan Required

The RMP contains specific management guidelines to address potential wildlife movement impacts, including the following objectives:

Objective B-1: Include large blocks of key biological resources areas within the Merriam Biological Open Space (see M-BIO-1).

Objective B-2: Enhance and restore sensitive resources within the Merriam Biological Open Space (see M-BIO-2).

Objective B-3: Provide resource management for the off-site mitigation area (see M-BIO-1).

Conclusions

Impacts to or adjacent to local wildlife corridors, subregional or regional linkages or other areas utilized for wildlife movement, as identified in Significance Guideline~~s~~ 4.1, would be significant as wildlife movement within the site will be restricted by directly removing 48% of the native and naturalized habitats and redirecting animal movement from existing trails being interrupted. The identified impacts would be mitigated to a level below significance by features incorporated in the project design (preservation of 1,192 acres of Biological Open Space) and mitigation measures M-BIO-5, which requires maintenance of the Biological Open Space such that it provides for long-term management and protection of wildlife, enhances wildlife trail connections where there is the opportunity to do so, and provides for genetic interchange through

an existing corridor with the San Marcos Mountains to facilitate wildlife movement. The identified impacts would be reduced to a level below significance because, taken together, the project design features and M-BIO-6, would preserve core habitat in the Merriam Mountains as a large habitat block, including a linkage to the San Marcos Mountains and preserve a functioning element in the I-15 habitat corridor away from the Merriam site.

5.0 SENSITIVE SPECIES IMPACTS

5.1 IMPACTS TO SENSITIVE ANIMAL OR PLANTS

DIRECT, INDIRECT, AND/OR CUMULATIVE IMPACTS MAY OCCUR THAT MAY BE DETRIMENTAL TO THE REGIONAL LONG-TERM SURVIVAL OF A COUNTY SENSITIVE ANIMAL (THOSE RECOGNIZED BY A GOVERNMENT AGENCY OR CONSERVATION OR SCIENTIFIC GROUP AS BEING DEPLETED, POTENTIALLY DEPLETED, DECLINING, RARE, LOCALLY ENDEMIC, ENDANGERED, OR THREATENED (BASED ON SCIENTIFICALLY VALID CRITERIA), AND/OR ANY SPECIES NOMINATED FOR OR ON A STATE OR FEDERAL RARE, ENDANGERED OR THREATENED SPECIES LIST WITHIN THE SAN DIEGO SUBREGION) OR DIRECT, INDIRECT, AND/OR CUMULATIVE IMPACTS THAT MAY REDUCE THE LOCAL POPULATION OF A PLANT SPECIES LISTED AS FEDERALLY OR STATE ENDANGERED OR THREATENED, AND/OR LISTED AS A COUNTY GROUP A OR B PLANT SPECIES, OR GROUP C OR D PLANT SPECIES AS LISTED BY THE COUNTY, OR A COUNTY-DEFINED SENSITIVE HABITAT (ANY HABITAT RECOGNIZED BY A GOVERNMENT AGENCY OR CONSERVATION OR SCIENTIFIC GROUP AS BEING DEPLETED, RARE AND/OR ENDANGERED, OR OTHERWISE SENSITIVE, BASED ON SCIENTIFICALLY VALID CRITERIA.

Impacts to state- or federally-listed plant species or County Group A or B plant species can potentially be detrimental to regional long-term species survival as noted in Guideline 5.1. Group C and D species identified in Guideline 5.1 are thought to be in decline, although not to the extent that extirpation or extinction is imminent. Because these species are often present in substantial numbers within suitable habitat, habitat based conservation approaches are generally adequate to protect them.

Project Impact Evaluation:

Sensitive Plant Species

The site contains three plant species that are on County special lists: Summer Holly, Ramona Horkelia, and Engelmann Oak.

Summery Holly [County List A] was observed at 17 locations, generally one or two at a time. Summer Holly is widespread in chaparral on the site and would be impacted proportionally with the loss of chaparral (ca. 35-40%). This species is fairly common in low numbers in the chaparral to the north, east, and west of the project site, and impacts are not significant and not detrimental to the regional long-term survival of the species.

Ramona Horkelia [County List A] was observed in a single location with about six individuals. The observed Horkelia specimens lacked vigor due of the old growth chaparral cover, and this single observed location does not constitute a population as it is not likely to be viable in the long term. The project site may also contain other areas with low numbers of Horkelia that were not seen due to the rough terrain and dense chaparral cover, they would also likely be depauperate due to the character of the chaparral.. Impacts are not significant and not detrimental to the regional long-term survival of the species.

Several Engelmann oaks [County List D] were scattered in a small area of coast live oak woodland on the southeast corner of the site and would be impacted by the project. This species is fairly common in low numbers throughout the region and has a low sensitivity rating. Impacts are not significant and not detrimental to the regional long-term survival of the species.

Sensitive Animal Species

The project would remove 27.3 acres of Diegan Coastal Sage Scrub habitat including both the project site and offsite improvements, some of which is occupied by state and federal listed threatened California Gnatcatchers. Diegan Coastal Sage Scrub is a regionally declining habitat and the project would remove 65% of the habitat on the site plus an additional 3.0 acres of this habitat for off site improvements along Deer Springs Road and Meadow Park Lane. The site contains or is expected to contain several wildlife species considered regionally declining, including Northern Red-diamond Rattlesnake, San Diego Horned Lizard, Orange-throated Whiptail, Coastal Whiptail, San Diego Desert Woodrat, California Thrasher and Red-shouldered Hawk. Due to the dense nature of the site's chaparral, these species are considered potentially present over the entire site, although in relatively low densities. The project would result in direct loss of these species proportional to the loss of 48 percent of the existing habitats. The loss of habitat, some of which is used by threatened or otherwise sensitive plants and animals is regarded as a significant impact (Impact BIO-6).

Impact Bio 6 – Direct impacts to Sensitive Plant and Animal Species are regarded as significant. .

Indirect construction and impacts over time would affect these sensitive species on the site, because of the addition of 2,700 dwelling units (with additional acres for fuel breaks, roads and associated activities). There would be an expanded boundary between developed areas and preserve areas ("urban/wildland interface"), with the potential increase in effects of lighting, runoff, unsupervised pets and children into the natural habitats. Additionally, the presence of landscaping and irrigation in and around developed areas will substantially increase the diversity of habitats on the site, creating new and expanded habitats for native and non-native bird and insect species that thrive in suburban environments. In the absence of implementation of the RMP to prevent habitat degradation and to minimize indirect edge effects impacts would be significant (This impact is consistent with Impacts BIO-3, BIO-7 and BIO-9, no additional impacts would result).

Summary of Project Effects

Significant impacts to *"Direct, indirect, and/or cumulative impacts may occur that may be detrimental to the regional long-term survival of a County Sensitive animal and/or any species nominated for or on a State or Federal rare, endangered or threatened species list."* would occur due to the removal of Diegan Coastal Sage Scrub occupied by California Gnatcatcher. In addition, indirect effects would occur to many sensitive species on the site, because of the addition of addition of 2,700 dwelling units (with additional acres for fuel breaks, roads and associated activities).

Mitigation Measures and Design Considerations

Project Design Considerations

The proposed project design includes 1,192 acres of Biological Open Space, enveloping more than 80% of the eastern border of the site along Interstate 15, the majority of the northern half of the ownership, as well as substantial connection with open habitats to the San Marcos Mountains to the west which maintain existing local wildlife corridors as well as subregional linkages utilized for wildlife movement. Additionally, the project proposes perpetual monitoring and maintenance of the open space areas through provision of the Resource Management Plan.

Mitigation Measures

M-BIO-6 The RMP includes mitigation for the regionally declining species that occur onsite.

Objective B-2: Enhance and restore sensitive resources within the Biological Open Space (see M-BIO-2).

Objective B-3: Provide resource management for the offsite mitigation area (see M-BIO-1).

Objective B-5: Track changes in the physical and biological conditions in Biological Open Space to determine active management strategies (see M-BIO-1).

Objective B-6: Prevent habitat degradation (see M-BIO-1).

Objective B-7: Control and Remove Invasive, Exotic Plant Species.

- Exotic plant species should be targeted for complete elimination from the Biological Open Space area prior to becoming established. Existing locations of eucalyptus or other exotic trees should be evaluated for their removal from the Biological Open Space.

Objective B-8: Control and Remove Invasive, Exotic Animal Species;

- All trash shall be removed from the Biological Open Space area; legal culling of exotic (non-native) species shall be conducted by the habitat manager with approval of the County, CDFG and USFWS. Control the effects of domestic pets on wildlife within the Biological Open Space through educating local residents through measures such as signage and newsletters. Chronic problems related to uncontrolled pets will be reported by the habitat manager to the Animal Control Officer.

Objective B-9: Identify and provide for permitted uses within the Merriam Biological Open Space consistent with the overall goal of resource protection (see M-BIO-2).

Conclusions

Impacts to the long term survival of a sensitive plants and animal were determined to be significant due to the removal of Diegan Coastal Sage Scrub occupied by California Gnatcatcher (Impact BIO-6). Impacts to sensitive species on the site from indirect effects would be reduced to less than significant by elements of the project design and conditioning the project to require mitigation measure M-BIO6, M-BIO-6a, and M-BIO-6b because the Biological Open Space would preserve a core habitat for these sensitive species and the RMP would provide management of the habitat for the benefit of these species in perpetuity.

5.2 IMPACTS TO ACTIVE GOLDEN EAGLE NEST

GRADING, CLEARING, CONSTRUCTION, OR OTHER ACTIVITIES (INCLUDING PASSIVE AND ACTIVE RECREATION, PERMANENT DEVELOPMENT OR RECREATIONAL ACTIVITIES) WILL OCCUR WITHIN 4,000 FEET OF AN ACTIVE GOLDEN EAGLE NEST DURING THE BREEDING SEASON (FEBRUARY 15 TO JULY 15).

The criterion related to golden eagles, their nests and offspring as identified in Guideline 5.2 are intended to protect this species pursuant to the Bald and Gold Eagle Protection Act.

Project Impact Evaluation:

Although the site contains an historic Golden Eagle nesting site, this site has been abandoned and has not been used by eagles since the early 1980's. Recent land use changes in the local area would likely preclude use of this nesting spot in the future.

Impacts to Golden Eagle nests would be less than significant since the historic nest on the site has not been occupied in recent years and is not likely to be occupied in the future as a result of land use changes. The project would not have any effect on an active Golden Eagle nest site.

5.3 IMPACT OF CONSTRUCTION-RELATED ACTIVITIES ON SENSITIVE NESTING BIRDS

Grading, clearing, and/or construction will occur within the following distances and within the following time periods for one or more of these species:

Species	Distance	Breeding Season
Coastal California Gnatcatcher	300 feet from occupied habitat	February 15 to August 31
Tree-nesting raptors	500 feet from occupied habitat	January 15 to July 15
Ground-dwelling raptors	800 feet from occupied habitat	February 15 to July 15

The criteria identified in Guideline 5.3 are intended to address the potential loss of offspring for particularly sensitive avian species based on the described buffer distances and breeding season dates derived from various studies completed for birds in San Diego County (and generally accepted by the scientific community).

Project Impact Evaluation:

As discussed in Guidelines 3.1 and 3.2 above, the project would impact approximately 48 percent of the habitat on the project site, plus approximately 53.7 acres associated with road improvements and utilities in off site areas. During construction activities, edge effects may result in nest disturbance due to activities near nests due to noise during clearing, grading and

construction. California Gnatcatchers are known to nest on the site and tree-nesting raptors such as Red-tailed Hawks and Cooper's Hawks may well nest on the site. Implementation of the project would result in disturbance of as much as 48% of the habitats on the project site through grading, clearing and/or other construction activities.

Impact Bio-7 – Project related impacts to Gnatcatcher and tree nesting raptors during construction activities would be significant.

Analysis of Project Effects

Project related impacts from "*Grading, clearing, and/or construction to occur near sensitive animal species"* would be significant as project implementation would result in disturbance of as much as 48% of the habitats on the project site through grading, clearing and/or other construction activities.

Mitigation Measures and Design Considerations

Mitigation Measure

M-BIO-7 Resource Management Plan Required

The RMP shall be implemented in conjunction with project implementation. Features specifically related to the significant impact associated with impacts to nesting birds or raptors include the following:

Objective B-12: Protect Critical Biological Resources during Construction (see M-BIO-1)

M-BIO-7a Seasonal Limitation on Clearing, Grubbing, and Grading

For each phase of grading, a one-time biological survey for nesting bird species must be conducted within the proposed impact area approximately 72 hours prior to construction. This survey is necessary to assure avoidance of impacts to nesting sensitive bird species and/or birds protected by the federal Migratory Bird Treaty Act. If any active nests are detected, the area will be flagged and mapped on the construction plans along with a minimum of a 25-foot buffer and up to a maximum of 300 feet for raptors (i.e., California Gnatcatchers, Red-tailed Hawks, and Cooper's Hawks), as determined by the project biologist, and will be avoided until the nesting cycle is complete.

Conclusions

Impacts to nesting California Gnatcatchers, and ground-and tree-nesting raptors, as identified in Significance Guideline 5.5, would be significant during construction activities. The identified impacts would be mitigated to a level below significance by mitigation measures M-BIO-7, which provides measures to reduce impacts during construction including erosion control, exclusion fencing, dust control, etc. and M-BIO-7a, which includes seasonal limitation of clearing, grubbing and grading. Through policies included within the RMP pertaining to construction and M-BIO-7a limiting construction activities during nesting season impacts would be reduced to a level below significance because, taken together, the proposed measures would minimize impacts to ground and tree-nesting raptors.

5.4 REMOVAL OF SUBSTANTIAL RAPTOR FORAGING HABITAT

SUBSTANTIAL RAPTOR FORAGING HABITAT (FROM A SUBREGIONAL PERSPECTIVE) WILL BE REMOVED.

The criterion identified in Guideline 5.4 is intended to address the raptor species that regularly use both native and non-native grassland habitats for foraging.

Project Impact Evaluation:

As discussed in Guidelines 3.1 and 3.2 above, the project would result in the loss of 17.6 acres of Non-native grassland onsite, 1.9 acres placed in the fuel modification area and 1.4 acres associated with roadway improvements along Deer Springs Road. Therefore of the existing 23.2 acres of Non-native Grassland, a habitat typically used by raptorial birds for foraging, 20.7 acres would be impacted. Additionally, the project would remove Granitic Southern Mixed Chaparral, substantially-reducing the potential of raptor foraging habitat due to its dense, tall growth resulting from being unburned for 100+ years, consisting of the following; 479 acres within the development impact onsite, 526.7 within the fuel modification area, 59.3 acres associated with access roads, 14.2 acres along Meadow Park Lane and 0.1 acres for Deer Springs Road (total of 1079.3 acres). Raptors undoubtedly also use the site's existing dirt roads for occasional foraging as well. The project's provision for fuel treatment and addition of landscape plantings will probably result in an increased area for potential foraging because it would result in more open habitats. Additionally, the project would preserve a large block of Southern Mixed Chaparral, purchase offsite Non-native grassland and restoration of Non-native grassland on site.. The loss of habitats of actual or potential raptor foraging habitat is regarded as a significant impact.

Impact Bio-8 – Project impacts resulting in the removal of Non-native grassland and Southern Mixed Chaparral would reduce raptor foraging habitat. This removal of foraging habitat is regarded as significant.

Summary of Project Effects

Significant impacts to "*Substantial raptor foraging habitat (from a subregional perspective) being removed"* would occur as the proposed project would disturb 20.7 acres of Non-native Grassland, both on and off site; and additional 1079.2 acres of Southern Mixed Chaparral habitat used for raptor foraging would be impacted. The loss of approximately 1,101.7 acres of actual or potential raptor foraging habitat is regarded as a significant impact.

Mitigation Measures and Design Considerations

Project Design Considerations

The proposed project design includes 1,192 acres of Biological Open Space, enveloping more than 80 % of the eastern border of the site along Interstate 15, the majority of the northern half of the ownership, as well raptor foraging habitat located within the Biological Open Space. The project would be conditioned to obtain approval of and implement a Resource Management Plan that would monitor and maintain the Biological Open Space in perpetuity, which contains 1,091.6 acres of Southern Mixed Chaparral and 3.7 acres of Non-native grassland, which includes raptor foraging habitat.

Mitigation Measures

M-BIO-8 Resource Management Plan Required

The Merriam Mountains' RMP shall be implemented in conjunction with project implementation. RMP objectives specifically related to the significant impact associated with the loss of potential raptor foraging habitat identified include the following:

Objective B-1: Include large blocks of key biological resource areas within the Merriam Biological Open Space (see M-BIO-1)

Objective B-2: Enhance and restore sensitive resources within the Merriam Biological Open Space (see M-BIO-2)

Objective B-6: Prevent Habitat Degradation (see M-BIO-1)

M-BIO-1c Non-native Grassland Mitigation

Conclusions

The removal of vegetation that containing raptor foraging habitats both onsite and off site, as identified in Significance Guideline 5.6 would be significant. The identified impacts would be mitigated to a level below significance by features incorporated in the project design (preservation of 1,192 acres of Biological Open Space and the RMP) and mitigation measures M-BIO-8, and M-BIO-1c which require acquisition or enhancement of habitats to compensate for those raptor foraging habitats impacted on site. The identified impacts would be reduced to a level below significance because, taken together, the design features and M-BIO-8 and M-BIO-1c would preserve core habitat in the Merriam Mountains a large habitat block and acquire, enhance and restore degraded areas that contain raptor foraging habitat.

6.0 LOCAL POLICIES, ORDINANCES, ADOPTED PLANS

6.1 NON-CONFORMANCE TO RPO REQUIREMENTS FOR WETLANDS AND SENSITIVE HABITAT PROTECTION

The project does not conform to the requirements regarding wetlands, wetland buffers, or sensitive habitat lands as outlined in the County of San Diego Resource Protection Ordinance (RPO).

The federal, state and county requirements identified Guideline 13 includes goals and objectives intended to protect wetlands. Compliance with the referenced laws and regulations is required. The agencies responsible for enforcing these laws and regulations are responsible agencies with respect to this EIR, including the CDFG and ACOE. These agencies and/or the laws and regulations they enforce are specifically referenced in the CEQA Guidelines, Appendix G.

Project Impact Evaluation:

RPO requires avoidance of wetlands. RPO also requires avoidance of the wetland buffer adjacent to the wetlands. The County RPO prohibits certain uses within RPO-defined wetlands and requires wetland buffers to protect the environmental and functional habitat values of wetlands, with buffer widths from 50 to 200 feet in width, based on various factors. The wetlands being maintained onsite would be located within the Biological Open Space, which are located a minimum of 300 feet from pad sites and development. Therefore adequate buffers for wetlands would be provided because the wetlands being maintained onsite are located within the Biological Open Space. Wetlands being conserved outside of the project boundaries include wetlands to the south of the proposed alignment of Deer Springs Road. The project design minimizes impacts to wetlands south of the proposed Deer Springs Road alignment through the construction of a retaining wall to ensure adequate distance between the roadway and wetland areas are maintained.

The project would impact 27.3 acres both onsite and offsite of occupied coastal sage scrub in the southeastern corner of the project. The presence of coastal sage scrub habitat occupied by the threatened coastal California gnatcatcher at the Mesa Rock Road cul-de-sac constitutes RPO Sensitive Habitat Lands. Impacting this occupied habitat by the project would be considered "take" of habitat and would require a Habitat Loss Permit (HLP) from the County. Measures to offset impacts to California Gnatcatcher-occupied habitat include purchase of a 32-acre site known as Captain's Associates, located along the I-15 corridor 0.5 mile south of the intersection of Nelsen Way and Old Highway 395.

Because none of the areas supporting sensitive plants found on the Merriam site constitute Sensitive Habitat Lands under RPO, the project is consistent with Sensitive Habitat Lands for sensitive plants populations.

As described previously, the Merriam site does not contain wildlife movement corridors as defined by the RPO; however, the large blocks of intact native habitat onsite do constitute an important core area of undeveloped habitat west of I-15 in the north-central portion of San Diego County. Protection of habitat blocks in the Merriam Mountains and the San Marcos Mountains to the west of Merriam and protection of existing linkages between the two mountainous landform masses is called for in the draft North County Multiple Species Conservation Program (NCMSCP).

The Merriam project would contribute to the draft North County Multiple Species Conservation Program (NCMSCP) goals by conserving approximately 1,192 acres of native habitat in the northern portion of the site in a configuration that provides for a large block of habitat and protects the onsite contribution to the Merriam/San Marcos Mountains linkage; this linkage contribution is located east and west of Twin Oaks Valley Road as it traverses the Merriam site and includes the Gopher Canyon tributary along Twin Oaks Valley Road. The habitat block to be conserved in the northern portion of the Merriam site incorporates onsite dirt roads and trails currently used by common mammals for wildlife movement, and would provide significant revegetation to degraded areas.

Impact Bio-9 – Inconsistencies with RPO requirements would be a significant impact.

Summary of Project Effects:

Significant impacts resulting from "*The project does not conform to the requirements regarding wetlands, wetland buffers, or sensitive habitat lands as outlined in the County of San Diego Resource Protection Ordinance (RPO)"* would occur in the absence of mitigation measures to allow for creation and enhancement of impacted wetlands. As shown in Table 7, the project would affect 2.1 acres (26 percent) of RPO wetlands onsite. These impacts would be

associated with creation of development pads and project roadways. Unavoidable onsite impacts include mule-fat scrub, oak riparian forest, southern willow scrub, southern willow scrub/mule-fat scrub and unvegetated wetlands. Unavoidable offsite impacts include 0.9 acre associated with offsite improvements to Deer Springs Road, a circulation element roadway required to be improved as part of the project. Deer Springs Road is determined to be an essential public facility and the Public Facilities Exemption incorporated in Section 86.605(c) of RPO is applicable to this offsite improvement. Therefore, impacts to wetlands and other sensitive habitat lands outlined in RPO would be significant and would be mitigated by both onsite and offsite creation of wetlands at a 3:1 ratio within the Biological Open Space and offsite purchase.

Mitigation Measures and Design Considerations

Project Design Considerations

The project design endeavors to avoid and minimize impacts to wetlands to the greatest degree possible. The proposed project design includes 1,192 acres of Biological Open Space, enveloping much of the eastern border of the site along Interstate 15, the majority of the northern half of the ownership, as well as substantial connection with open habitats to the San Marcos Mountains to the west which maintain existing local wildlife corridors as well as subregional linkages utilized for wildlife movement. Additionally, the project proposes perpetual monitoring and maintenance of the open space areas through provision of the Resource Management Plan.

Mitigation Measures

M-BIO-9: The project includes a Resource Management Plan (RMP) that addresses all resources covered by the RPO and is included as the functional equivalent to RPO. Through consolidating open space and management of RPO resources, the RMP provides for a more comprehensive approach to resource protection and management than would occur under RPO.

Conclusions

In the absence of conveyance and management of the Biological Open Space impacts to conformance with the RPO would be significant (M-BIO-10). The project would be fully consistent with RPO with the exception of unavoidable impacts to 2.1 acres of RPO wetlands onsite and 0.9 acres offsite along Deer Springs Road. These impacts are unavoidable given the project goals of concentrating development in the southern portion of the property to create a biological preserve in the northern portion of the property, providing a core habitat block in the Merriam Mountains. An amendment to RPO is proposed as part of the project to add an Exemption to Section 86.605 of the RPO. The exemption would exempt “any project located

within the approximately 2,327 acres property known as "Merriam Mountains Specific Plan" if determined to be consistent with a comprehensive Resource Management Plan (RMP) which has been adopted by the Board of Supervisors as the functional equivalent of RPO". Implementation of the RMP (M-BIO-10), which addresses all RPO resources and describes features incorporated in the project to protect and manage those resources, would reduce impacts to a level below significance because the RMP completed for the proposed project identified benefits of implementing a RMP rather than adhering to the strict requirements of the RPO.

6.2 NONCONFORMANCE TO THE COUNTY OF SAN DIEGO HABITAT LOSS PERMIT (HLP) ORDINANCE OR NATURAL COMMUNITY CONSERVATION PLAN (NCCP).

THE PROJECT DOES NOT CONFORM TO THE GOALS AND REQUIREMENTS OF THE COUNTY OF SAN DIEGO HABITAT LOSS PERMIT (HLP) ORDINANCE OR NATURAL COMMUNITY CONSERVATION PLAN (NCCP).

Guideline 6.2 addresses applicable goals and requirements under the County HLP Ordinance 8365 and related 4d rule for the California Gnatcatcher. The 4d rule authorized a total interim Diegan coastal sage scrub habitat loss of five percent (based on calculations of then existing habitat acreage by an established Scientific Review Panel). An HLP is required for parcels located outside of the MSCP, and must be issued prior to issuance of Brushing and Clearing Permits, Grading Permits or Improvement Permits in lieu of Grading Permits.

Project Impact Evaluation:

In addition to the County of San Diego's HLP process, the project must demonstrate conformance with overall goals and policies of the NCCP, and may also be required to make the specific findings applicable to issuance of Incidental Habitat Loss Permits (HLPs). Through hardline negotiations with the Wildlife Agencies, and in signing a hardline agreement for the draft NCMSCP, the project has demonstrated conformance with the general principles. If NCMSCP has not been adopted at the time of project approval, the specific findings applicable to NCCP will be made. The hardline agreement has established that the project footprint is consistent with preserve design principles under the NCCP.

As part of the NCMSCP, findings have been prepared for the Preserve Design Principles for the proposed project (see Appendix 4). As seen in these findings the project would be consistent with a majority of the Preserve Design Principles. Principles include an orderly conveyed management of Merriam Biological Open Space. In the absence of orderly conveyance and management of the preserve area, impacts associated with conformance with County NCMSCP would be significant.

As seen in Appendix 3, a NCCP Draft 4(d) Findings in Support of the Issuance of a Habitat Loss Permit has been prepared for the proposed project. The following Findings were assessed, Finding 1.a: The habitat loss does not exceed the five percent guideline, Finding 1.b: The habitat loss will not preclude connectivity between areas of high habitat values, Finding 1.c: The habitat loss will not preclude or prevent the preparation of the subregional NCCP, (the project has a hardline agreement for consistency with the subregional NCCP) Finding 1.d: Habitat loss has been minimized and mitigated to the maximum extent practicable in accordance with Section 4.3 of the NCCP Process Guidelines (the all south clustered development),, Finding 2: The habitat loss will not appreciably reduce the likelihood of survival and recovery of listed species in the wild.

The project would impact one pair of gnatcatcher and 27.3 acres of Diegan Coastal Sage Scrub both onsite and offsite. The project would retain approximately 5.5 acres of Diegan Coastal Sage Scrub in small patches within the Biological Open Space. Mitigation land within the future preserve area will adequately mitigate for the loss without reducing the likelihood of survival of the gnatcatcher and will provide for the preservation of gnatcatcher at the Captains Associate parcel. The findings prepared in this report indicate that issuance of a Habitat Loss Permit is appropriate for the proposed development.

Connectivity is maintained because the major wildlife corridors are reduced to less than significant and the major linkage is maintained. Therefore the project is in conformance with the Habitat Loss Permit ordinance because the 4(d) findings can be made for the project and impacts due to inconsistency with NCCP would be less than significant.

Summary of Project Effects

The findings prepared in this report indicate that issuance of a Habitat Loss Permit is appropriate for the proposed development. The conclusions for significance under guideline 4.1, major wildlife corridors are reduced to less than significant and the major linkage is maintained. Therefore the project is in conformance with the Habitat Loss Permit ordinance because the 4(d) findings can be made for the project and impacts due to inconsistency with NCCP would be less than significant.

Mitigation Measures and Design Considerations

No specific mitigation measures apply to Guideline 6.2.

Conclusions

The findings prepared in this report indicate that issuance of a Habitat Loss Permit is

appropriate for the proposed development. The conclusions for significance under guideline 4.1, major wildlife corridors are reduced to less than significant and the major linkage is maintained. Therefore the project is in conformance with the Habitat Loss Permit ordinance because the 4(d) findings can be made for the project and impacts due to inconsistency with NCCP would be less than significant.

6.3 NONCONFORMANCE TO THE HCP, HABITAT MANAGEMENT PLAN (HMP), SPECIAL AREA MANAGEMENT PLAN (SAMP) OR REGIONAL PLANNING EFFORT.

THE PROJECT DOES NOT CONFORM TO THE GOALS AND REQUIREMENTS AS OUTLINED IN AN APPLICABLE HABITAT CONSERVATION PLAN (HCP), HABITAT MANAGEMENT PLAN (HMP), SPECIAL AREA MANAGEMENT PLAN (SAMP), OR SIMILAR REGIONAL PLANNING EFFORT.

Guideline 6.3 addresses applicable goals and requirements under applicable HCP, SAMP, or similar planning efforts to protect sensitive resources in perpetuity.

Project Impact Evaluation:

There are no existing County HCPs, HMPs, or SAMPs for the area, and therefore there are no impacts.

Analysis of Project Effects:

No impacts would occurs to "*The project does not conform to the goals and requirements as outlined in an applicable Habitat Conservation Plan (HCP), Habitat Management Plan (HMP), Special Area Management Plan (SAMP), or similar regional planning effort*" as there are no existing County HCPs, HMPs, or SAMPs for the area.

Mitigation Measures and Design Considerations

Project Design Considerations

No specific project design considerations apply to Guideline 6.3.

Mitigation Measures

No specific mitigation measures apply to Guideline 6.3.

Conclusions

There are no existing County HCPs, HMPs, or SAMPs for the area, therefore no impacts would result from the proposed project.

6.4 NONCONFORMANCE TO APPLICABLE FEDERAL OR STATE REGULATIONS.

THE PROJECT DOES NOT CONFORM TO THE GOALS AND REQUIREMENTS OF APPLICABLE FEDERAL OR STATE REGULATIONS, INCLUDING BUT NOT LIMITED TO THE FEDERAL ENDANGERED SPECIES ACT, MIGRATORY BIRD TREATY ACT, BALD EAGLE PROTECTION ACT, CLEAN WATER ACT, PORTER-COLOGNE WATER QUALITY ACT, AND THE CALIFORNIA FISH AND GAME CODE.

The federal and state requirements identified in Guideline 6.4 include goals and objectives intended to protect (among other issues) sensitive species, habitats and related resource values such as water quality. Many of these goals and objectives are addressed either directly or indirectly in elements of project Guidelines presented above. Compliance with the referenced laws and regulations is required. The agencies responsible for enforcing these laws and regulations are responsible agencies with respect to this EIR, including the USFWS, CDFG, RWQCB and ACOE. These agencies and/or the laws and regulations they enforce are specifically reference in the CEQA Guidelines, Appendix G.

Project Impact Evaluation:

As discussed in Guideline 3.1, the project would impact approximately 48% of the habitats occurring on site, plus an additional 53.7 acres of habitats occurring off site because of transportation and utility requirements, while retaining approximately 52% of the site in Biological Open Space. Some of the habitats that would be impacted by the project have been shown or could be used by resources protected under the Federal Endangered Species Act, Migratory Bird Treaty Act, Bald Eagle Protection Act, Clean Water Act, Porter-Cologne Water Quality Act, and the California Fish and Game Code.

The project is in conformance with the goals and requirements of applicable federal or state regulations, including but not limited to the Federal Endangered Species Act, Migratory Bird Treaty Act, Bald Eagle Protection Act, Clean Water Act, Porter-Cologne Water Quality Act, and the California Fish and Game Code because conditions of approval will require that the proposed project to obtain applicable permits and implement avoidance of migratory birds, raptors, eagles and conform to the projects SWMP plan

Summary of Project Effects

Impacts resulting from the proposed project "*does not conform to the goals and requirements of applicable federal or state regulations, including but not limited to the federal Endangered Species Act, Migratory Bird Treaty Act, Bald Eagle Protection Act, Clean Water Act, Porter-Cologne Water Quality Act, and the California Fish and Game Code"* would be less than significant because the project is in conformance with the goals and requirements of applicable federal or state regulations, including but not limited to the Federal Endangered Species Act, Migratory Bird Treaty Act, Bald Eagle Protection Act, Clean Water Act, Porter-Cologne Water Quality Act, and the California Fish and Game Code because conditions of approval will require that the proposed project to obtain applicable permits and implement avoidance of migratory birds, raptors, eagles and conform to the projects SWMP plan

Mitigation Measures and Design Considerations

Project Design Considerations

The specific design of the project attempted to avoid and minimize impacts to specific habitats and resources identified in Guideline 6.4. The proposed project design includes 1,192 acres of managed Biological Open Space in a configuration to preserve core habitat in the Merriam Mountains. The project also includes a Resource Management Plan (RMP) that describes measures to manage and maintain the preserve and sensitive resources identified in Guideline 6.4 in perpetuity.

The design of the project has attempted to avoid, minimize and mitigate any resources protected by the listed federal and state regulations. Where appropriate, the project has been conditioned to obtain permits under these regulations.

Mitigation Measures

No specific mitigation measures apply to Guideline 6.4.

Conclusions

Impacts to various habitats on site and off site which support species and other resources protected by federal and state regulations identified in Guideline 6.4 would be less than significant because the project is in conformance with the goals and requirements of applicable federal or state regulations, including but not limited to the Federal Endangered Species Act, Migratory Bird Treaty Act, Bald Eagle Protection Act, Clean Water Act, Porter-Cologne Water Quality Act, and the California Fish and Game Code because conditions of approval will require

that the proposed project to obtain applicable permits and implement avoidance of migratory birds, raptors, eagles and conform to the projects SWMP plan

7.0 INDIRECT IMPACTS

7.1 SIGNIFICANT HABITAT EDGE EFFECTS

On- or off-site native habitat will be subjected to substantially-adverse edge effects, including:

- *A. Post-construction noise levels in excess of 60 dB during daytime hours and 50 dB during nighttime hours measured at the edge of native habitats slated for preservation;*
- *B. Artificial light in excess of 0.005-foot candles (half as bright as a full moon);*
- *C. A drawdown of the groundwater table of 3 feet or more (for groundwater-dependent species or habitats);*
- *D. Substantial encroachment of any kind, including but not limited to unauthorized clearing within preserved areas, trash dumping or off-road vehicle traffic;*
- *E. Substantial predation or substantial disruption of natural history activities of native species by unrestrained domestic pets;*
- *F. Water runoff or underground seepage causing a substantial adverse change in natural moisture levels and/or increasing the spread of pollution and pesticides; or*
- *G. Substantially adverse change in vegetation caused by invasive plants from adjacent ornamental landscaping;*
- *H. Introduce or substantially increase populations of pest, disease-carrying, or nuisance species (plants or animals) that may adversely affect native species, future project residents or adjacent residents.*

The criteria identified in Guideline 7.1, are directed toward protecting open space from edge effects related to development. The criteria identified for potential project related edge effects in Guideline 7.1 were generated on the basis of both local conditions and commonly accepted practices in the biological community.

Project Impact Evaluation:

As discussed in Guideline 3.1 and 3.2, above, the project would impact approximately 48% of the habitats on site, plus an additional 53.7 acres of various habitats from off site transportation and utilities improvements, while retaining approximately 52% of the onsite habitats in Biological Open Space. The Biological Open Space has been configured as a large

habitat block in the northern portion of the property, traversed only by a secondary access road (Lawrence Welk Court) and a gated, emergency access route (Camino Mayor).

Implementing the proposed project will result in human activities, located adjacent to the Biological Open Space. Potential edge effects could include the following; non-permitted activities within the Biological Open Space, introduction of invasive animal or plant species, and debris from recreational users. Sensitive vegetation communities or sensitive plants that will be preserved onsite could be potentially impacted during construction activities. Therefore, the potential for short-term or construction-related impacts resulting from the proposed project through grading, clearing and/or other construction activities would be significant (This impact is consistent with Impacts BIO-3, BIO-7 and BIO-9, no additional impacts would result).

The proposed project includes a design, which concentrates development in the southern part of the project site and preserves habitats in the eastern and northern parts of the project, attempts to reduce and buffer impacts to the preserved areas that would be generated from the development areas. Furthermore, recreational use in the Biological Open Space will be limited to trails along existing dirt pathways and trail overlooks as noted in the Merriam Mountains Specific Plan (see Appendix C).

Implementation of the proposed project would impact 1186 acres (including offsite improvements) of habitat by clearing, grubbing, and grading, along with construction of roads, utilities and residential housing, some of which would be adjacent to sensitive resources identified above. Unintended impacts from construction-related activities and the subsequent occupation of new residential housing and other uses are regarded as a significant impact.

Impact Bio-10 – Occupation of residential housing uses and commercial area near sensitive resources would result in significant edge effects

Summary of Project Effects:

Impacts to "*on- or off-site native habitat will be subjected to substantially-adverse edge effects"*, would be significant as a result of implementation of the proposed project impacting 1186 acres (including offsite improvements) of habitat by clearing, grubbing, and grading, along with construction of roads, utilities and residential housing, some of which would be adjacent to sensitive resources identified above. Unintended impacts from construction-related activities and the subsequent occupation of new residential housing and other uses are regarded as a significant impact.

Mitigation Measures and Design Considerations

Project Design Considerations

The specific design of the project attempted to avoid and minimize specific habitats and resources identified in Guideline 6.4. The proposed project design includes 1,192 acres of managed Biological Open Space in a configuration to preserve core habitat in the Merriam Mountains. The project also includes a Resource Management Plan (RMP) that describes measures to manage and maintain the preserve and sensitive resources identified in Guideline 7.1 in perpetuity and monitor construction activities adjacent to sensitive resources.

Mitigation Measures

M-BIO-10 Resource Management Plan Requirement

The Merriam Mountains; RMP shall be implemented in conjunction with project implementation. The RMP includes the following specific objectives related to impacts associated with placing urban development adjacent to the proposed Biological Open Space resulting in adverse urban type edge effects.

Objective B.1: Include large blocks of key biological resource areas with in the Merriam Biological Open Space (see M-BIO-1)

Objective B-6: Prevent Habitat Degradation (see M-BIO-1)

Objective B-7: Control and Remove Invasive, Exotic Plant Species (see M-BIO-6)

Objective B-8: Control and Remove Invasive, Exotic Animal Species (see M-BIO-6)

Objective B-12: Protect Critical Biological Resources during Construction (see M-BIO-1)

Objective B-13: Establish and maintain public awareness and education programs to f oster community support for the Resource Management Plan.

- The habitat manager will attend meetings of the local community to inform them of the status of the habitat management program and to enlist their cooperation and support. Interpretative signage will be installed that will help educate users/neighbors of the Merriam area about the ecology of the area and purpose of the Biological Open Space.

M-BIO-7a Seasonal Limitation on Clearing, Grubbing and Grading

M-BIO-10a Secondary Effects of Grading Mitigation

Grading and/or applicable permits for any permitted activities on the site shall require County-required best management techniques to control fugitive dust, water, runoff, and noise to protect adjacent preserve areas. Additionally, any sensitive habitat area should be clearly identified with signage and construction fencing to protect such areas during construction activities.

Conclusions

Impacts to natural resources and habitat viability, as identified in Guideline 7.1, would be significant due to urban edge effects and construction activities adjacent to sensitive resources. The identified impacts would be mitigated to a level below significance by features incorporated in the project design (preservation of 1,192 acres of Biological Open Space and the RMP) and mitigation measures M-BIO-10, M-BIO-7a which includes seasonally limit clearing, grubbing and grading, and M-BIO-10a, which requires best management practices to be conditioned to grading or other applicable permits.

7.2 REDUCED HABITAT VIABILITY FROM INDIRECT IMPACTS

REDUCED HABITAT VIABILITY IN HABITATS NOT DIRECTLY IMPACTED BY THE PROPOSED PROJECT

Similar to Guideline 3.1, Guideline 3.2 and Guideline 7.2 are associated with preservation of contiguous blocks of open space consistent with accepted conservation biology principles.

Project Impact Evaluation

Refer to discussion under Guideline 7.1

Analysis of Project Effects

Refer to discussion under Guideline 7.1

Mitigation and Design Considerations

Refer to discussion under Guideline 7.1

Conclusions

Refer to discussion under Guideline 7.1

Habitat Linkages/Movement Corridors

8.0 CUMULATIVE IMPACTS

8.1 CUMULATIVE IMPACTS TO RARE OR ENDANGERED SPECIES

DOES THE PROJECT HAVE THE POTENTIAL TO DEGRADE THE QUALITY OF THE ENVIRONMENT, SUBSTANTIALLY REDUCE THE HABITAT OF A FISH OR WILDLIFE SPECIES, CAUSE A FISH OR WILDLIFE POPULATION TO DROP BELOW SELF-SUSTAINING LEVELS, THREATEN TO ELIMINATE A PLANT OR ANIMAL COMMUNITY, OR REDUCE THE NUMBER OR RESTRICT THE RANGE OF A RARE OR ENDANGERED PLANT OR ANIMAL SPECIES ?

8.2 CUMULATIVE CONSIDERABLE IMPACTS

DOES THE PROJECT HAVE IMPACTS THAT ARE INDIVIDUALLY LIMITED, BUT CUMULATIVELY CONSIDERABLE? ("CUMULATIVELY CONSIDERABLE" MEANS THAT THE INCREMENTAL EFFECTS OF A PROJECT ARE CONSIDERABLE WHEN VIEWED IN CONNECTION WITH THE EFFECTS OF PAST PROJECTS, THE EFFECTS OF OTHER CURRENT PROJECTS, AND THE EFFECTS OF PROBABLE FUTURE PROJECTS)?

Project Impact Evaluation:

Potential impacts to biological resources were examined for 69 projects in north-central San Diego County (assessment area) including the entire cumulative project list because this specific cumulative impact area has similar biological resources (chaparral, coastal sage scrub, and oak woodlands). This analysis includes projects located in the City of San Marcos, City of Vista, City of Escondido and the County of San Diego, including proposed and recently approved projects. For those projects located within or adjacent to the I-15 corridor, California Gnatcatchers are of particular interest, because the associated habitats may serve as a conduit for longitudinal and occasional latitudinal movement about the freeway. Gnatcatchers are relatively uncommon east of the freeway compared to areas to the west. Data regarding biological resources was not available for 36 of the 69 projects (52 percent), either because of incomplete application information, or lack of biological resource data in jurisdiction files. There is also no indication of the total size of each project, so no cumulative total of project sizes can be calculated. Appendix G lists the Project application number, a consecutive project number (unique to this table), major vegetation types (where stated), with stated impacts, and a note relating to the project.

The summary of proposed impacts to biological resources derived from Appendix 7 is shown in Table 12. It is assumed that, during the project review and approval process, that all the impacts to important biological resources would be mitigated at appropriate ratios.

As can be seen from Table 12, the Merriam project would result in substantial percentages of the total impacts within the assessment area, due to the large size of the Merriam project relative to the cumulative projects in the cumulative study area. Average project size of cumulative projects in the study area is 30 acres or less as compared to the Merriam project of 2327 acres. As shown in Table 12 the Merriam project would contribute about 91 percent of the total cumulative contribution to chaparral impacts along with 33 percent and 49 percent respectively to riparian and wetland impacts. The contribution expressed in percentage terms reflect the large size of the Merriam project compared to other cumulative projects. These contributions are not considered significant due to the Merriam project contribution to MSCP goals as noted below.

Analysis of cumulative effects on individual sensitive species is less clear because of the paucity of information from other projects. Impacts to the California Gnatcatcher is shown in Appendix G, which indicates that 15 Gnatcatcher loci (assumed to be either mated pairs or individuals) would be impacted; this project includes one pair, or approximately 6.7 percent of the reported impacted gnatcatchers. The project site and the cumulative projects are within the boundaries of the North County MSCP planning area. All these projects must contribute to achievement of planning goals for the North County MSCP including preservation of linkages and cores and sensitive resources.. The North County MSCP, is still in draft form and is being processed as an amendment to the County's approved MSCP Subarea Plan. The MSCP addresses the conservation needs of identified covered species in the context of projected growth within the MSCP planning area. The MSCP and associated environmental documentation address projected cumulative and growth inducing impacts to covered species and their habitats. Since the proposed project would be consistent with and contribute to achievement of MSCP goals in the North County area, the proposed project would avoid cumulative biological impacts to covered species and their habitats would be less than significant.

The wildlife agencies have concurred that the proposed Biological Open Space areas as the hardline is the appropriate area for analysis of the proposed draft NCMSCP. Therefore even though the project would impact as much as 1079.2 acres of chaparral habitat, this impact would be less than considerable because it is mitigated by preservation and active management of chaparral in the Biological Open Space that would substantially contribute to maintaining the ecological functions of the larger North County Segment of the draft NCMSCP.

Summary of Project Effects

The wildlife agencies have concurred that the proposed Biological Open Space areas as the hardline is the appropriate area for analysis of the proposed draft NCMSCP. Therefore, even though the project would impact as much as 1079.2 acres of chaparral habitat, this impact would be less than considerable because it is mitigated by preservation and active management of chaparral in the Biological Open Space that would substantially contribute to maintaining the ecological functions of the larger North County Segment of the draft NCMSCP.

Mitigation Measures and Design Considerations

Project Design Considerations

The proposed project design includes 1,192 acres of Biological Open Space in a configuration to preserve core habitat in the Merriam Mountains. The project includes a Resource Management Plan (RMP) that describes measures to manage and maintain the preserve in perpetuity. This active management would have a beneficial effect on the natural resources of the site because it would implement adaptive management strategies that reduce the likelihood of additional impacts from unauthorized uses and exotic species of plants and animals.

Conclusions

Cumulative impacts to natural habitats and the California Gnatcatcher within the project area and the larger north county inland foothills assessment area as identified in Guidelines 8.1 and 8.2 would be less than significant. The project site is within the boundaries of the North County MSCP planning area and, as discussed previously in this section, would contribute to achievement of planning goals for the North County MSCP, including provision of a 1,192 acre biological preserve in the Merriam Mountains core area. The North County MSCP, still in draft form, is being processed as an amendment to the County's approved MSCP Subarea Plan. The MSCP addresses the conservation needs of identified covered species in the context of projected growth within the MSCP planning area. The MSCP and associated environmental documentation address projected cumulative and growth inducing impacts to covered species and their habitats. Since it would be consistent with and contribute to achievement of MSCP goals in the North County area, the Merriam project would avoid cumulative biological impacts to covered species and their habitats

9.0 EFFECTS CONSIDERED LESS-THAN-SIGNIFICANT

9.1 IMPACTS TO DISTURBED HABITAT, URBAN/DEVELOPED LAND, ORCHARDS, AND EXTENSIVE AGRICULTURE LANDS

The project would result in impacts to 2.1 acres (7%) of the existing 27.3 acres of Disturbed Habitat onsite, 12.5 acres (95%) of the existing 13.0 acres of Urban Developed Habitat onsite, 0.3 acre (29%) of the existing 2.4 acres of Orchard habitat onsite, 1.5 acres (100%) of the existing 1.5 acres of Eucalyptus Woodland onsite and 3.6 acres (73%) of the existing 4.9 acres of Intensive Agriculture onsite. All of these impacts are considered less than significant because they are not natural and they have low habitat quality. This impact would not be significant.

9.2 IMPACTS TO MAFIC CHAPARRAL, FRESHWATER MARSH, SYCAMORE ALLUVIAL WOODLANDS, SOUTHERN WILLOW SCRUB/TAMARISK SCRUB

No direct or indirect impacts would occur to Mafic Chaparral, Freshwater Marsh, Sycamore Alluvial Woodland and Southern Willow Scrub/Tamarisk Scrub.

None of the project's impacts on sensitive plants are considered to be detrimental to the regional long-term survival. Impacts would be less than significant.

9.3 SIGNIFICANT DEGRADATION OF HABITAT BECAUSE OF DECREASE IN SPECIES FACTORS OR BIOLOGICAL VALUE AND FUNCTIONING OF HABITAT

The value of a substantial stand of native habitat will be "moderately to significantly" degraded either immediately or in the long-term as indicated by one of the following:

A. A substantial decrease in species composition, diversity, or abundance
B. A substantial decline in the biological value or function of the habitat

Impacts to the overall value of the natural habitats onsite and offsite, as identified in Significance Criteria 3.4, are less than significant because the Biological Open Space would be preserved in perpetuity and managed according to the requirements of the Merriam Mountains RMP, the Biological Open Space would maintain a high biological value and function as a result of design measures incorporated into the proposed project, the open space will be preserved and managed in perpetuity, restoration/creation of habitats will largely occur within the Biological Open Space to contribute to the naturally functioning ecosystem, and the project would preserve core habitat in the Merriam Mountains as a large habitat preserve.

9.4 NONCONFORMANCE TO THE COUNTY OF SAN DIEGO HABITAT LOSS PERMIT (HLP) ORDINANCE OR NATURAL COMMUNITY CONSERVATION PLAN (NCCP)

The findings prepared in this report indicate that issuance of a Habitat Loss Permit is appropriate for the proposed development. The conclusions for significance under guideline 4.1, major wildlife corridors are reduced to less than significant and the major linkage is maintained. Therefore the project is in conformance with the Habitat Loss Permit ordinance because the 4(d) findings can be made for the project and impacts due to inconsistency with NCCP would be less than significant.

9.5 NON-CONFORMANCE TO THE HCP, HMP, SAMP, OR REGIONAL PLANNING EFFORT.

There are no existing County HCPs, HMPs, or SAMPs~~OS~~ for the area, and therefore there are no impacts.

9.6 Nonconformance to Applicable Federal or State Regulations.

The project does not conform to the goals and requirements of applicable federal or state regulations, including but not limited to the federal Endangered Species Act, Migratory Bird Treaty Act, Bald Eagle Protection Act, Clean Water Act, Porter-Cologne Water Quality Act, and the California Fish and Game Code

The project is in conformance with the goals and requirements of applicable federal or state regulations, including but not limited to the Federal Endangered Species Act, Migratory Bird Treaty Act, Bald Eagle Protection Act, Clean Water Act, Porter-Cologne Water Quality Act, and the California Fish and Game Code because conditions of approval will require that the proposed project to obtain applicable permits and implement avoidance of migratory birds, raptors, eagles and conform to the projects SWMP plan

9.7 Cumulatively Considerable Impacts

Cumulative impacts to natural habitats and the California Gnatcatcher within the project area and the larger north county inland foothills assessment area as identified in Guidelines 8.1 and 8.2 would be less than significant. The project site is within the boundaries of the North County MSCP planning area and, as discussed previously in this section, would contribute to achievement of planning goals for the North County MSCP, including provision of a 1,192 acre biological preserve in the Merriam Mountains core area. The North County MSCP, still in draft form, is being processed as an amendment to the County's approved MSCP Subarea Plan. The MSCP addresses the conservation needs of identified covered species in the context of projected growth within the MSCP planning area. The MSCP and associated environmental

documentation address projected cumulative and growth inducing impacts to covered species and their habitats. Since it would be consistent with and contribute to achievement of MSCP goals in the North County area, the Merriam project would avoid cumulative biological impacts to covered species and their habitats.

10.0 EFFECTS CONSIDERED POTENTIALLY SIGNIFICANT BUT REDUCED TO A LEVEL OF LESS-THAN SIGNIFICANT BY PROJECT DESIGN

10.1 IMPACTS TO SENSITIVE PLANTS

The impacts to sensitive species of plants within the proposed development area would be reduced to a level of less-than-significant by their inclusion in the Biological Preserve and adherence to the resource management plan.

10.2 INTERFERENCE WITH EXISTING TERRESTRIAL WILDLIFE MOVEMENT TRAILS

The preparation, review, approval, and implementation of the proposed Resource Management Plan that includes interconnecting trails, wildlife undercrossings, and other habitat enhancement features would reduce potentially significant effects on habitat quality to a less-than-significant level.

10.3 IMPACTS TO ACTIVE GOLDEN EAGLE NEST

Based on the project design that would not result in grading, clearing, construction, or other activities within 4,000 feet of an active Golden Eagle nest, it has been determined that the impact would be less than significant.

11.0 PROPOSED MITIGATION

Guideline 3.1: Impacts to naturally-functioning environments

M-BIO-1 Resource/Habitat Management Plan Requirement

The Merriam Mountains Resource Management Plan shall be implemented in conjunction with project implementation. Resource Management Plan features specifically related to the significant impact associated with the loss of natural habitat on the project site include the following:

Objective B-1: Include large blocks of key biological resource areas within the Merriam Biological Open Space.

- Include within the Merriam Biological Open Space 1192 acres of natural habitat, representative populations of sensitive plant species and animals species observed on site, existing dirt trails and canyon bottoms currently used by wildlife for movement across the site and the north/south trending tributary to Gopher Canyon along Twin Oaks valley Road providing linkage opportunities to the San Marcos Mountains.

Objective B-5: Track changes in the physical and biological conditions in Biological Open Space to determine active management strategies;

- Provide regular site inspections by the habitat manager which include recording and mapping changes in the biological and physical environment that may affect the Biological Open Space biological integrity.

Objective B-6: Prevent Habitat Degradation, and

- The following shall be prohibited in the Biological Open Space: grading, placement of structures, grazing, dumping, and vegetation removal. Provide for various potentially adverse effects of human use within the Biological Open Space through trash removal, preventing squatting, use of firearms for hunting and poaching/collecting.

Objective B-12: Protect Critical Biological Resources during Construction

- Install conspicuous temporary construction fencing in all locations of the project where proposed grading or clearing is within 100 feet of the Biological Open Space, Other Open Space, or offsite native vegetation.
- Employ a construction monitor to perform the following duties: be on site weekly during vegetation clearing, grubbing, and grading, when these activities are within 300 feet of biological open space or offsite native vegetation to insure that all habitat protection measures are in place; inspect fencing and erosion control measures adjacent to preserved areas a minimum of once per week and daily during rain events and report deficiencies immediately to the DPW Construction Inspector; periodically monitor the work area for excessive dust generation; train contractors and construction personnel, including the purpose for resource protection, a description of the gnatcatcher and its habitat, and the conservation measures that should be implemented during project construction; halt work when deficiencies require mediation; notify DPW Construction Inspector within 24 hours if it is necessary to halt work; produce weekly reports to keep at the project site; produce a final report at the completion of each phase or unit and submit to the Director of Planning and Land Use; confer with the Wildlife Agencies within 24 hours any time protected habitat or endangered species are being affected by construction; determine if nesting migratory birds will be affected by clearing and grading and direct construction activities away from nesting areas; and be responsible for notification and oversee remediation if impacts to preserved habitat should occur.

- Restrict all brushing and clearing such that none will be allowed within 100 feet of native or naturalized habitats during the migratory bird breeding season, unless the Biological Monitor determines that no migratory bird nests will be affected. This is defined as occurring from February 1 through August 31.

M-BIO-1a Diegan Coastal Sage Scrub Mitigation:

Impacts to 27.3 acres Diegan Coastal Sage Scrub shall be mitigated at a ratio of 2:1 by a combination of: onsite preservation of 5.5 acres of Diegan Coastal Sage Scrub in the Biological Open Space; acquisition of Captains Associate Parcel (32 acres); and a Coastal Sage Scrub/Grassland mosaic restoration onsite in accordance with the Merriam Mountains' Uplands and Wetlands Conceptual Revegetation Plan (Appendix X to this EIR). The Hardline Points of Agreement concluded that the Wildlife Agencies agree to consider the Captains Associate parcel as adequate MCSP mitigation for Diegan Coastal Sage Scrub impacts to contribute to the assembly of the draft NCMSCP preserve.

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M-BIO-1b Southern Mixed Chaparral Vegetation Mitigation

Impacts to 1079.2 acres of Southern Mixed Chaparral vegetation shall be mitigated at a ratio of 0.5:1. The project design places 1091.6 acres of Southern Mixed Chaparral vegetation in Biological Open Space, in accordance with the requirements of the Merriam Mountains' RMP.

M-BIO-1c Non-native Grassland Vegetation Mitigation

The loss of 20.7 acres of Non-native Grassland shall be mitigated at a ratio of 0.5:1 by the combination of onsite preservation in Biological Open Space (3.7 acres), and through creation/enhancement within the Biological Open Space (see Figures 13a through 13c) prior to issuance of grading permits, in accordance with the Merriam Mountains' Uplands and Wetlands Conceptual Revegetation Plan (Appendix X in the EIR).

M-BIO-1d Southern Coast Live Oak Woodland Riparian Forest Mitigation

Impacts to 1.3 acres of Southern Coast Live Oak Woodland Riparian Forest shall be mitigated offsite by creation/enhancement at a 3:1 ratio at an offsite location prior to issuance of grading permits, in accordance with the Merriam Mountains' Uplands and Wetlands Conceptual Revegetation Plans (Appendix X in the EIR).

M-BIO-1e Southern Willow Scrub/Mule Fat Scrub Mitigation

Impacts to 0.3 acres of Southern Willow Scrub/Mule Fat Scrub shall be mitigated onsite by restoration/enhancement at a 3:1 ratio at the abandoned airstrip location (see Figures 13a through 13c) prior to issuance of grading permits, in accordance with the Merriam Mountains' Uplands and Wetlands Conceptual Revegetation Plans (Appendix X in the EIR).

M-BIO-1f Mule Fat Scrub Mitigation

Impacts to 0.2 acres of Mule Fat Scrub shall be mitigated onsite by restoration/enhancement at a 3:1 ratio at the abandoned airstrip location (see Figures 13a through 13c) prior to issuance of grading permits, in accordance with the Merriam Mountains' Uplands and Wetlands Conceptual Revegetation Plans (Appendix X in the EIR).

M-BIO-1g Southern Willow Scrub Mitigation

Impacts to 0.3 acres of Southern Willow Scrub shall be mitigated onsite by restoration/enhancement at a 3:1 ratio at the abandoned airstrip location (see Figures 13a through 13c) prior to issuance of grading permits, in accordance with the Merriam Mountains' Uplands and Wetlands Conceptual Revegetation Plans (Appendix X in the EIR).

M-BIO-1h Coast Live Oak Woodland Mitigation

Impacts to 2.4 acres of Coast Live Oak Woodland shall be mitigated at a 3:1 ratio by the combination of onsite preservation and restoration in Biological Open Space (see Figures 13a through 13c) and by identifying an offsite location prior to issuance of grading permits, in accordance with the Merriam Mountains' Uplands and Wetlands Conceptual Revegetation Plans (Appendix X in the EIR).

M-BIO-1i Non-vegetated Channel and unvegetated wetlands

Impacts to 0.8 acres of Non-vegetated channel shall be mitigated onsite at a 1:1 ratio and 0.1 acres of unvegetated wetlands shall be mitigated at a 3:1 ratio at the abandoned airstrip location (see Figures 13a through 13c) prior to issuance of grading permits, in accordance with the Merriam Mountains' Uplands and Wetlands Conceptual Revegetation Plans (Appendix X in the EIR).

Guideline 3.2: Impacts to long-term health and viability of the ecosystem

M-BIO-2 Resource Management Plan Requirement

The Merriam Mountains' RMP shall be implemented in conjunction with project

implementation. RMP features specifically related to the significant impacts associated with the preservation of natural biological diversity on the project site include the following:

Objective B-1: Include large blocks of key biological resource areas within the Biological Open Space (see M-BIO-1)

Objective B-2: Enhance and restore sensitive resources within the Biological Open Space;

- Maintain revegetation/creation areas within the Biological Open Space as shown in the Conceptual Uplands and Wetlands Revegetation Plans (Appendix X). Maintain County/ACOE/CDFG wetlands within the Biological Open Space.

Objective B-4: Effectively manage the Biological Open Space to protect, maintain and enhance resources;

- Identify a Habitat Manager for the Biological Open Space and Captains Associate Parcel acceptable to the County. The manager shall maintain the integrity of the preserved habitats, by monitoring for changes in the baseline conditions, annual reporting and updating the RMP every five years based on data collected during the annual reporting efforts.

Objective B-6: Prevent Habitat Degradation (see M-BIO-2)

Objective B-9: Identify and provide for permitted uses within the Biological Open Space consistent with the overall goal of resource protection.

- Recreation users shall be limited to trails, overlooks, and trailheads. No other recreation uses shall be permitted within the Merriam Biological Open Space. The habitat manager will regularly monitor trail use to identify unauthorized trails. Two secondary access roads (Lawrence Welk Court and Camino Mayor) shall be permitted within the Biological Open Space. Two water tanks (North Tank and Coogan Tank) exist on separate parcels bounded by the Biological Open Space. Fuel management activities shall be permitted along the secondary access roads located within the Biological Open Space.

Guideline 3.3: Removing functionally-substantial component of native habitat

M-BIO-3 Resource Management Plan Requirement

The Merriam Mountains' RMP shall be implemented in conjunction with project implementation. RMP features specifically related to construction impacts to native or naturalized habitat that would be preserved on the site include the following:

Objective B-12: Protect Critical Biological Resources from Impacts during Construction (see M-BIO-1)

Guideline 3.5: County wetland impacts

M-BIO-4 Resource Management Plan Requirement

The RMP contains specific management guidelines to address preservation and enhancement of wetlands, including the following:

Objective B-2: Enhance and restore sensitive resources within the Merriam Biological Open Space (see M-BIO-2)

Objective B-12: Protect Critical Biological Resources during Construction (see M-BIO-1)

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M-BIO-4a Wetlands and Jurisdictional Area Mitigation

The project tentative maps and grading permits shall be conditioned to obtain the following permits (as appropriate) prior to any clearing, grubbing, ground disturbance or grading of any tentative map area of the site: ACOE 404 permit, Regional Water Quality Control (RWQCB) 401 permit, and/or CDFG Code 1600 Streambed Alteration Permit (SAA).

M-BIO-1d, Southern Coast Live Oak Woodland Riparian Forest Mitigation (see page 62),

M-BIO-1e, Southern Willow Scrub/Mule Fat Scrub Mitigation (see page 62),

M-BIO-1f, Mule Fat Scrub Mitigation (see page 62),

M-BIO-1g, Southern Willow Scrub (see page 62)

Guideline 4.1: Wildlife corridors and linkages

M-BIO-5 Resource Management Plan Requirement

The RMP contains specific management guidelines to address potential wildlife movement impacts, including the following objectives:

Objective B-1: Include large blocks of key biological resources areas within the Merriam Biological Open Space (see M-BIO-1)

Objective B-2: Enhance and restore sensitive resources within the Merriam Biological Open Space (see M-BIO-2)

Objective B-3: Provide resource management for the off-site mitigation area (see M-BIO-5)

Guideline 5.1: Direct impacts to sensitive animals or plants

M-BIO-6 The RMP includes mitigation for the regionally declining species that occur onsite.

Objective B-2: Enhance and restore sensitive resources within the Biological Open Space (see M-BIO-2).

Objective B-3: Provide resource management for the offsite mitigation area (see M-BIO-1).

Objective B-5: Track changes in the physical and biological conditions in Biological Open Space to determine active management strategies (see M-BIO-1).

Objective B-6: Prevent habitat degradation (see M-BIO-1).

Objective B-7: Control and Remove Invasive, Exotic Plant Species.

- Exotic plant species should be targeted for complete elimination from the Biological Open Space area prior to becoming established. Existing locations of eucalyptus or other exotic trees should be evaluated for their removal from the Biological Open Space.

Objective B-8: Control and Remove Invasive, Exotic Animal Species;

- All trash shall be removed from the Biological Open Space area; legal culling of exotic (non-native) species shall be conducted by the habitat manager with approval of the County, CDFG and USFWS. Control the effects of domestic pets on wildlife within the Biological Open Space through educating local residents through measures such as signage and newsletters. Chronic problems related to uncontrolled pets will be reported by the habitat manager to the Animal Control Officer.

Objective B-9: Identify and provide for permitted uses within the Merriam Biological Open Space consistent with the overall goal of resource protection (see M-BIO-2).

Guideline 5.3: Impact of construction-related activities on sensitive nesting birds

M-BIO-7 Resource Management Plan Required

The RMP shall be implemented in conjunction with project implementation. Features specifically related to the significant impact associated with impacts to nesting birds or raptors include the following:

Objective B-3: Provide resource management for the off-site mitigation area (see M-BIO-5)

Objective B-12: Protect Critical Biological Resources during Construction (see M-BIO-1)

M-BIO-7a Seasonal Limitation on Clearing, Grubbing and Grading

For each phase of grading, a one-time biological survey for nesting bird species must be conducted within the proposed impact area approximately 72 hours prior to construction. This survey is necessary to assure avoidance of impacts to nesting sensitive bird species and/or birds protected by the federal Migratory Bird Treaty Act. If any active nests are detected, the area will be flagged and mapped on the construction plans along with a minimum of a 25-foot buffer and up to a maximum of 300 feet for raptors (i.e., California Gnatcatchers, Red-tailed Hawks and Cooper's Hawks), as determined by the project biologist, and will be avoided until the nesting cycle is complete.

Guideline 5.4 Substantial raptor foraging habitat (from a subregional perspective) will be removed.

M-BIO-8 Resource Management Plan Required

The Merriam Mountains' RMP shall be implemented in conjunction with project implementation. RMP objectives specifically related to the significant impact associated with the loss of potential raptor foraging habitat identified include the following:

Objective B-1: Include large blocks of key biological resource areas within the Merriam Biological Open Space (see M-BIO-1)

Objective B-2: Enhance and restore sensitive resources within the Merriam Biological Open Space (see M-BIO-2)

Objective B-6: Prevent Habitat Degradation (see M-BIO-2)

M-BIO-1c Non-native Grassland Mitigation

Guideline 6.1: Non-conformance to RPO requirements for wetlands and sensitive habitat protection

M-BIO-9: The project includes a Resource Management Plan (RMP) that addresses all resources covered by the RPO and is included as the functional equivalent to RPO. Through consolidating open space and management of RPO resources, the RMP provides for a more comprehensive approach to resource protection and management than would occur under RPO.

Guideline 7.1: Significant habitat edge effects

M-BIO-10 Resource Management Plan Requirement

The Merriam Mountains; RMP shall be implemented in conjunction with project implementation. The RMP includes the following specific objectives related to impacts associated with placing urban development adjacent to the proposed Biological Open Space resulting in adverse urban type edge effects.

Objective B.1: Include large blocks of key biological resource areas with in the Merriam Biological Biological Open Space (see M-BIO-1)

Objective B-6: Prevent Habitat Degradation (see M-BIO-1)

Objective B-7: Control and Remove Invasive, Exotic Plant Species (see M-BIO-6)

Objective B-8: Control and Remove Invasive, Exotic Animal Species (see M-BIO-6)

Objective B-12: Protect Critical Biological Resources during Construction (see M-BIO-1)

Objective B-13: Establish and maintain public awareness and education programs to foster community support for the Resource Management Plan.

- The habitat manager will attend meetings of the local community to inform them of the status of the habitat management program and to enlist their cooperation and support. Interpretative signage will be installed that will help educate users/neighbors of the Merriam area about the ecology of the area and purpose of the Biological Open Space.

M-BIO-7a Seasonal Limitation on Clearing, Grubbing and Grading

M-BIO-10a Secondary Effects of Grading Mitigation

Grading and/or applicable permits for any permitted activities on the site shall require County-required best management techniques to control fugitive dust, water, runoff, and noise to protect adjacent preserve areas. Additionally, any sensitive habitat area should be clearly identified with signage and construction fencing to protect such areas during construction activities.

12.0 CONCLUSIONS

Guideline 3.1: Impacts to naturally-functioning environments

Based on the analysis presented above, it has been determined that the impact exceeds Significance Guideline 3.1, which states impacts would be significant if the proposed project would result in the loss of "A block of substantially native habitat considered essential to the naturally-functioning local or subregional or regional biological environment will be eliminated or substantially degraded such that it no longer provides comparable biological function(s) or value(s)." Therefore impacts would be significant through removal of native habitat through both onsite and offsite improvements. However, elements of the project design including the 1,192 acre Biological Open Space and conditioning the project to require mitigation measures M-BIO-1, M-BIO-1a, M-BIO-1b, M-BIO-1c, M-BIO-1d, M-BIO-1e, M-BIO-1f, M-BIO-1g, M-BIO-1h, and M-BIO-1i, would reduce the impacts to a less than significant level. Impacts would be reduced to a level below significance through creation/enhancement of impacted vegetation. Onsite creation/enhancement would be located at the onsite abandoned airstrip for willow scrub wetlands. An offsite purchase would be completed for oak riparian wetlands impacts, purchase of 32 acre Captains Associate parcel plus Coastal Sage Scrub/Grassland mosaic restoration onsite at quarry and airstrip for impacts to coastal sage scrub. Impacts to Non-native Grassland plant palette would be reduced to a level below significance through creation in the fuel modification area. Impacts to Coast Live Oak Woodland would be reduced to a level below significance through enhancement/creation onsite within the fuel modification area.

Through preservation revegetation onsite or offsite purchase impacts are reduced to a level below significance because (1) the most rare habitats regionwide, are mitigated at a higher ratio while more common habitats are mitigated, regionwide, are mitigated at a lower ratio, (2) conditions of approvals will require that mitigation land will be of like kind and value (3) the mitigation land will be preserved and managed in perpetuity, and (4) restoration/creation of habitats will occur within proximity to the project to contribute to naturally functioning ecosystem.

Guideline 3.2: Impacts to long-term health and viability of the ecosystem

Impacts from "The natural biological diversity and habitat associations are not being preserved in a contiguous, functional habitat area, thereby compromising the long-term health and viability of the ecosystem", as identified in Significance Guideline 3.2, would be significant in the absence of conveyance and management of the Biological Open Space. Impacts associated with biological diversity being reduced onsite would be mitigated to a level below significance by features incorporated in the project design (preservation of 1,192 acres of Biological Open Space and the RMP), Conceptual Revegetation Plans and mitigation measure M-BIO-2 which requires implementation of the RMP. The identified impacts would be reduced to a level below significance because, taken together, the project design features (including preservation and enhancement of habitats as shown in the RMP), M-BIO-1 and M-BIO-2 would preserve core habitat in the Merriam Mountains as a large habitat preserve. The Biological Open Space would be preserved in perpetuity and managed according to the requirements of the Merriam Mountains RMP. Project impacts to biological diversity and habitat diversity have been reduced by the provision of 52 % of the site as Biological Open Space and adherence to an RMP, as well as onsite revegetation of Oak Woodlands and Non-native Grasslands to compensate for the loss of diversity as discussed in the Uplands and Wetlands Revegetation Plans (see Appendix X of the EIR) and purchase of the Captains Associate Property. Orderly conveyance and management of the Biological Open Space area, would reduce impacts associated with natural biological diversity to less than significant.

Guideline 3.3: Removing functionally-substantial component of native habitat

Impacts to natural and naturalized habitats, as identified in Significance Criteria 3.3, would be significant during construction. The identified impacts would be mitigated to a level below significance through features incorporated in the Resource Management Plan through implementation of the above measures, because inadvertent dust, noise, erosion, and human/vehicle-caused damage would be avoided.

Guideline 3.4: Significant degradation of habitat because of decrease in species factors or biological value and functioning of habitat

Impacts to the overall value of the natural habitats onsite and offsite, as identified in Significance Criteria 3.4, are less than significant because the Biological Open Space would be preserved in perpetuity and managed according to the requirements of the Merriam Mountains RMP, the Biological Open Space would maintain a high biological value and function as a result of design measures incorporated into the proposed project, the Biological Open Space will be preserved and managed in perpetuity, restoration/creation of habitats will largely occur within the Biological Open Space to contribute to the naturally functioning ecosystem, and the project

would preserve core habitat in the Merriam Mountains as a large habitat preserve.

Guideline 3.5: County wetland impacts

Based on the analysis presented above, it has been determined that impacts to County-defined and other wetlands, as identified in Significance Criteria 3.5, would be significant. However, elements of the project design (preservation of 5.9 acres of wetlands in the Biological Open Space and management provided by the RMP) and conditioning the project to require mitigation measures M-BIO-4, M-BIO-4a (which requires permits and creation/enhancement measures prior to impacts), M-BIO-1d, M-BIO-1e, M-BIO-1f and M-BIO-1g (which require creation/enhancement of impacted wetlands) would reduce the impacts to a less than significant level because impacts to wetlands are mitigated at 3:1 ratio, conditions of approval will require mitigation land will be preserved and managed in perpetuity, and restoration/creation of habitats will occur within proximity to the project to contribute to naturally functioning ecosystem. Through impacted vegetation communities' revegetation onsite or through an offsite purchase as discussed in Appendix X to the EIR, impacts would be reduced to a level below significance because the mitigation would be held to the "no net loss" standard of 3:1, because the mitigation would occur in proximity to the impacts, and because no long-term reduction in species composition, diversity, or abundance will occur.

Impact 4.1: Wildlife corridors and linkages

Impacts to or adjacent to local wildlife corridors, subregional or regional linkages or other areas utilized for wildlife movement, as identified in Significance Guidelines 4.1, would be significant as wildlife movement within the site will be restricted by directly removing 48% of the native and naturalized habitats and redirecting animal movement from existing trails being interrupted. The identified impacts would be mitigated to a level below significance by features incorporated in the project design (preservation of 1,192 acres of Biological Open Space) and mitigation measures M-BIO-5, which requires maintenance of the Biological Open Space such that it provides for long-term management and protection of wildlife, enhances wildlife trail connections where there is the opportunity to do so, and provides for genetic interchange through an existing corridor with the San Marcos Mountains to facilitate wildlife movement. The identified impacts would be reduced to a level below significance because, taken together, the project design features and M-BIO-6, would preserve core habitat in the Merriam Mountains as a large habitat block, including a linkage to the San Marcos Mountains and preserve a functioning element in the I-15 habitat corridor away from the Merriam site.

Guideline 5.1: Direct impacts to sensitive animals or plants

Impacts to the long term survival of a sensitive plants and animal were determined to be significant due to the removal of Diegan Coastal Sage Scrub occupied by California Gnatcatcher (Impact BIO-6). Impacts to sensitive species on the site from indirect effects would be reduced to

less than significant by elements of the project design and conditioning the project to require mitigation measure M-BIO6, M-BIO-6a, and M-BIO-6b because the Biological Open Space would preserve a core habitat for these sensitive species and the RMP would provide management of the habitat for the benefit of these species in perpetuity.

Guideline 5.5: Impact of construction-related activities on sensitive nesting birds

Impacts to nesting California Gnatcatchers, and ground-and tree-nesting raptors, as identified in Significance Guideline 5.5, would be significant during construction activities. The identified impacts would be mitigated to a level below significance by mitigation measures M-BIO-7, which provides measures to reduce impacts during construction including erosion control, exclusion fencing, dust control, etc. and M-BIO-7a, which includes seasonal limitation of clearing, grubbing and grading. Through policies included within the RMP pertaining to construction and M-BIO-7a limiting construction activities during nesting season impacts would be reduced to a level below significance because, taken together, the proposed measures would minimize impacts to ground and tree-nesting raptors.

Guideline 6.1: Non-conformance to RPO requirements for wetlands and sensitive habitat protection

In the absence of conveyance and management of the Biological Open Space impacts to conformance with the RPO would be significant (M-BIO-10). The project would be fully consistent with RPO with the exception of unavoidable impacts to 2.1 acres of RPO wetlands onsite and 0.9 acres offsite along Deer Springs Road. These impacts are unavoidable given the project goals of concentrating development in the southern portion of the property to create a biological preserve in the northern portion of the property, providing a core habitat block in the Merriam Mountains. An amendment to RPO is proposed as part of the project to add an Exemption to Section 86.605 of the RPO. The exemption would exempt "any project located within the approximately 2,327 acres property known as "Merriam Mountains Specific Plan" if determined to be consistent with a comprehensive Resource Management Plan (RMP) which has been adopted by the Board of Supervisors as the functional equivalent of RPO". Implementation of the RMP (M-BIO-10), which addresses all RPO resources and describes features incorporated in the project to protect and manage those resources, would reduce impacts to a level below significance because the RMP completed for the proposed project identified benefits of implementing a RMP rather than adhering to the strict requirements of the RPO.

Guideline 6.2: Non-conformance to County HLP ordinance or NCCP guidelines

The findings prepared in this report indicate that issuance of a Habitat Loss Permit is appropriate for the proposed development. The conclusions for significance under guideline 4.1,

major wildlife corridors are reduced to less than significant and the major linkage is maintained. Therefore the project is in conformance with the Habitat Loss Permit ordinance because the 4(d) findings can be made for the project and impacts due to inconsistency with NCCP would be less than significant.

Guideline 6.4: Non-conformance to applicable federal or state environmental regulations

Impacts to various habitats on site and off site which support species and other resources protected by federal and state regulations identified in Guideline 6.4 would be less than significant because the project is in conformance with the goals and requirements of applicable federal or state regulations, including but not limited to the Federal Endangered Species Act, Migratory Bird Treaty Act, Bald Eagle Protection Act, Clean Water Act, Porter-Cologne Water Quality Act, and the California Fish and Game Code because conditions of approval will require that the proposed project to obtain applicable permits and implement avoidance of migratory birds, raptors, eagles and conform to the projects SWMP plan

Guideline 7.1: Significant habitat edge effects

Impacts to natural resources and habitat viability, as identified in Guideline 7.1, would be significant due to urban edge effects and construction activities adjacent to sensitive resources. The identified impacts would be mitigated to a level below significance by features incorporated in the project design (preservation of 1,192 acres of Biological Open Space and the RMP) and mitigation measures M-BIO-10, M-BIO-7a which includes seasonally limit clearing, grubbing and grading, and M-BIO-10a, which requires best management practices to be conditioned to grading or other applicable permits.

EFFECTS CONSIDERED POTENTIALLY SIGNIFICANT BUT REDUCED TO A LEVEL OF LESS-THAN SIGNIFICANT BY ADHERENCE TO THE PROPOSED MITIGAITON MEASURES

Guideline 3.1: Impacts to naturally-functioning environments

Impact Bio-1a – Project related impacts to 27.3 acres of Diegan Coastal Sage Scrub would be significant.

Impact Bio-1b – Project related impacts to 1079.2 acres of Southern Mixed Chaparral would be significant.

Impact Bio-1c – Project related impacts to 20.7 acres of Non-native Grassland would be significant.

Impact Bio-1d – Project related impacts to 1.3 acres of South Coast Live Oak Riparian Forest would be significant.

Impact Bio-1e – Project related impacts to 0.3 acre of Southern Willow Scrub/Mule Fat Scrub would be significant.

Impact Bio-1f – Project related impacts to 0.2 acre of Mule Fat Scrub would be significant.

Impact Bio-1g- Project related impacts to 0.3 acre of Southern Willow Scrub would be significant.

Impact Bio-1h - Project related impacts to 2.4 acre of Coast Live Oak Woodland would be significant.

Impacts Bio-1i – Project related impacts to 0.8 acres of Non-vegetated channel and 0.1 acres of unvegetated wetlands would be significant.

Guideline 3.2: Impacts to long-term health and viability of the ecosystem

Impact Bio-2– Project related impacts to the natural biological diversity would be significant.

Guideline 3.3: Removing functionally-substantial component of native habitat

Impact Bio-3 – Project related impacts for short-term or construction related impacts to native and naturalized habitats would be significant.

Guideline 3.5: County wetland impacts

Impact Bio-4 – Project related impacts to 2.1 acres of RPO Wetlands onsite and 0.9 acres offsite along Deer Springs Road would be significant.

Guideline 4.1: Wildlife corridors and linkages

Impact Bio-5 – The proposed project would limit wildlife movement within the development footprint by directly removing native and naturalized habitats and redirecting animal movement from existing trails to new connecting trails.

Guideline 5.1: Direct impacts to sensitive animals or plants

Impact BIO 6 – Impacts to Diegan Coastal Sage Scrub, occupied by California Gnatcatcher, is regarded as significant.

Guideline 5.3: Impact of construction-related activities on sensitive nesting birds

Impact Bio-7 – Project related impacts to California Gnatcatcher and tree nesting raptors during construction activities would be significant.

Guideline 5.4: Removal of substantial raptor foraging habitat

Impact Bio-8 – Project impacts resulting in the removal of Non-native grassland and Southern Mixed Chaparral would reduce raptor foraging habitat. This removal of foraging habitat is regarded as significant.

Guideline 6.1: Non-conformance to RPO requirements for wetlands and sensitive habitat protection

Impact Bio-9 – Inconsistencies with RPO requirements would be a significant impact
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Guideline 7.1: Significant habitat edge effects

Impact Bio-12 – Occupation of residential housing uses and commercial area near sensitive resources would result in significant edge effects.

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TABLE 1
Summary of Field Dates and Personnel for Merriam Site
(Divided into Two Sections to Conserve Space)

Date	Staff	Field Work Objective
3/24/00	RMB	Botany/Vegetation Mapping
5/1/00	RMB	Botany/Vegetation
5/9/00	RMB	Botany/Vegetation
12/1/00	RMB	Botany/Vegetation
5/8/01	DWA	Zoology
5/8/01	DWA	Zoology
5/9/01	DWA	Zoology
5/12/01	DWA	Zoology
5/22/01	DWA	Zoology
5/23/01	DWA	Zoology
4/16/02	DWA	California Gnatcatcher #1
5/14/02	DWA	California Gnatcatcher #1
5/16/02	DWA	California Gnatcatcher #1
5/23/02	DWA	California Gnatcatcher #1
5/21/03	JHK	Oak Survey
5/23/03	JHJ/CE	Oak Survey
5/27/03	JHJ/CE	Oak Survey
7/7/03	JHK/DWA	Corridor Study

Date	Staff	Field Work Objective
7/8/03	JHK/DWA	Corridor Study
7/9/03	JHK/DWA	Corridor Study
8/4/03	JHK/DWA	Jurisdictional Determination
8/5/03	JHK/DWA	Jurisdictional Determination
8/15/03	JHK/DWA	Jurisdictional Determination
8/18/03	JHK/DWA	Jurisdictional Determination
8/19/03	JHK/DWA	Jurisdictional Determination
9/8/03	JHK/DWA	Oak Survey
11/12/03	JHK/MUE	CAGN Habitat Assessment
4/5/04	RMB	Rare Plant Survey
4/14/04	JHK	CAGN Habitat Assessment
4/23/04	JHK	California Gnatcatcher #2
4/30/04	JHK	California Gnatcatcher #2
5/7/04	JHK	California Gnatcatcher #2
5/30/04	MUE	Dun Skipper
6/30/04	DWA	Dun Skipper
2/17/05	JHK/DWA	Jurisdictional Determ. Field Rev.

TABLE 2
Merriam Vegetation Types, Existing Areas and Percent of Total Area (in Acres)

Holland Code	Vegetation Type	Existing Area	% Total Site
11100	Eucalyptus Woodland	1.5	0.20
11300	Disturbed Habitat	27.3	1.10
12000	Urban Developed	13.2	0.50
18100	Orchard	2.4	0.10
18200	Intens. Agriculture	4.9	0.21
32500	Diegan Coastal Sage Scrub	28.6	1.23
37121	Southern Mixed Chaparral	2156.6	92.10
37122	Mafic Southern Mixed Chaparral	57.4	2.40
42200	Non-native Grassland	23.2	1.00
52410	Freshwater Marsh	0.1	0.00
61310	S. Coast Live Oak Rip. Forest	2.3	0.10
62100	Willows/Oaks/Sycamore Wdlnd	1.6	0.07
63300	So Willow Scrub/Mule Fat Scrub	0.3	0.01
63310	Mule-Fat Scrub	0.2	0.01
63320	Southern Willow Scrub	2.6	0.11
63320	S. Willow Scrub/Tamarisk Scrub	0.6	0.02
71160	Coast Live Oak Woodland	4.2	0.22
	TOTAL	**2327.00**	**100.00**

TABLE 3
PO Wetlands and Other Jurisdictional Wetlands

Wetlands Habitats	Existing (Acres)
Freshwater Marsh	0.1
Mule-Fat Scrub	0.2
Oak Riparian Forest	2.3
Southern Willow Scrub	2.6
Southern Willow Scrub/Mule Fat Scrub	0.3
Southern Willow Scrub/Tamarisk Scrub	0.6
Sycamore Alluvial Woodland	1.6
Unvegetated Wetlands	0.2
Total RPO Wetlands	7.9
Other Jurisdictional Unvegetated Waters	
Total ACOE**	7.1
Total CDFG**	7.3

Source: Pacific Southwest Biological Services, Inc., October 2006
** included for disclosure but not considered to be RPO wetlands.

TABLE 4
Deer Springs Road Improvement Impacts

Vegetation Type	Impact (Acres)
Disturbed Habitat	1.1
Urban Developed	20.5
Orchard	0.6
Eucalyptus Woodland	1.4
Intensive Agriculture	1.3
Coastal Sage-Chaparral Scrub	3.0
Non-native Grassland	1.2
Coast Live Oak Woodland*	0.1
Non-Vegetated Channel	0.8
Total	30

*CDFG/RPO (associated with stream)

TABLE 5
Published Home Range Areas for Known and Hypothetical Project Area Mammals

Species	Published Home Range	Source
Black-tailed Hare (*Lepus californicus*)	45 ac	Lechleitner (1958)
Deer Mouse (*Peromyscus maniculatus*)	0.25-0.5 ac	Storer *et al.* (1944)
Desert Woodrat (*Neotoma lepida*)	0.10-0.5 ac	MacMillen (1964), Bleich & Schwartz (1975)
Coyote (*Canis latrans*)	1,920-19,840 ac (3-31 mi2)	Bekoff (1977)
Gray Fox (*Urocyon cinereoargenteus*)	320 ac (0.5 mi2)	Fuller (1978)
Long-tailed Weasel (*Mustela frenata*)	25-50 ac	Quick (1951); Burt & Grossenheider (1976)
Striped Skunk (*Mephitis mephitis*)	83-1,860 ac	Storm (1972)
Mountain Lion (*Felis conclor*)	Male: 9,600 ac (15 mi2) Female: 1,280-6,400 ac (2-12 mi2)	Russell (1978)
Bobcat (*Felis rufus*)	1,152-13,248 ac (1.8-20.7 mi2)	Zuzulak & Schwab (1980)
Mule Deer (*Odocoileus hemionus*)	256-704 ac (0.4-1.1 mi2)	Taber & Dasmann (1958)

TABLE 6
Summary of Biological Effects from Alternative Projects

ID	Alternatives	Description	Effects on Biology
A	No Project/No Development Alternative	No development on the site. The site would remain in its existing condition.	Biological resources would remain as presently existing. However, effects of uncontrolled off-road vehicle use with attendant erosion and siltation would be exacerbated. Chances of catastrophic wildfire would increase because of lack of fire control and increased off road usage.
B	No Project/Existing General Plan Alternative	Develop site according to existing plans with density as allowed based on existing slope-dependent land uses. This alternative would result in 345 dwelling units, with 12 acres of neighborhood commercial development in the southeastern corner of the site as allowed under the existing plans.	Biological resources would be degraded with increased parcelization; existing wildlife movement patterns would be disrupted; uncontrolled domestic pets would invade margins of developed areas. No comprehensive or coherent habitat conservation plan would be utilized because of probable lack of cooperation with individual land owners.
C	RPO Conformance Alternative	Base development area without waives for RPO steep slopes; avoid RPO wetlands. This alternative would result in 1,673 dwelling units, with approximately 9.8 acres of neighborhood commercial development in the southeastern corner of the site.	Avoidance of RPO wetlands would increase potential wildlife use to these areas. Not developing steep slopes could retain more wildlife movement areas, depending on configuration of remaining open areas.
D	Reduced Project Footprint Alternative	This alternative has been designed to avoid all impacts to CSS on the site, including approximately 10 acres of CSS in the southeastern portion of the site occupied by a pair of CAGN. This alternative would reduce the project footprint area to 803 acres by reducing the number of dwelling units from 2,700 to 2,280 units and eliminating the neighborhood commercial development in the southeastern corner of the site on the west side of Merriam Parkway. Density would be increased in Neighborhood 2 to make up for some of the dwelling units lost avoiding the CAGN.	On-site Gnatcatcher habitat would be retained but off-site areas planned for preservation as mitigation sites would not be preserved.

TABLE 7
Onsite Encroachment into RPO Wetlands and Other Jurisdictional Waters

Vegetation/ land cover	Existing (acres)	Impacts (acres)*	Mitigation ratio	Required mitigation (acres)	Area preserved onsite (acres)	Area created/ enhanced onsite (acres)	Mitigation required offsite (acres)
RPO Wetlands							
Freshwater Marsh	0.1	0.0	3:1	0.0	0.1	0.0	0.0
Mule-Fat Scrub	0.2	0.2	3:1	0.6	0.0	0.6	0.0
Oak Riparian Forest	2.3	1.2	3:1	3.6	1.1	3.6	0.0
Southern Willow Scrub	2.6	0.3	3:1	0.9	2.3	0.9	0.0
Southern Willow Scrub/Mule Fat Scrub	0.3	0.3	3:1	0.9	0.0	0.9	0.0
Southern Willow Scrub/Tamarisk Scrub	0.6	0.0	3:1	0.0	0.6	0.0	0.0
Sycamore alluvial woodland	1.6	0.0	3:1	0.0	1.6	0.0	0.0
Unvegetated Wetlands	0.2	0.1	3:1	0.3	0.1	0.3	0.0
Total RPO Wetlands	7.9	2.1		6.3	5.8	6.3	0.0
Other Jurisdictional Waters of the U.S. and State							
ACOE/CDFG*	7.3	2.0	N/A	NA	N/A	N/A	N/A

* Impacts for disclosure but not considered encroachment into RPO Sensitive Habitat or Wetlands; mitigation would be determined in conjunction with future resource agency permitting. Impact area includes Development Acres, Other Open Space Acres and Secondary Access Roads The impact area does not include off-site impacts for Meadow Park Lane which includes 0.1 acre of Southern Coast Live Oak Riparian Forest. Onsite Secondary Access Roads consist of Lawrence Welk Court and Camino Mayor.

NA = not applicable

TABLE 8
General Proposed Land Uses

Land Use Description	Acres
Biological Open Space[1]	1,192
Development Area[2]	1,135
Total	2,327

[1] Excludes secondary access roads.

[2] Includes building pads, manufactured slopes, fuel management areas and secondary access roads.

TABLE 9
Merriam Existing Vegetation, Development Areas, Fuel Management Areas/Other Open Space, Secondary Access Roads, and Biological Open Space

	EXISTING		IMPACTS					
VEGETATION TYPE	Existing Acres	% of Total Project	Development[1] Acres	% of Total Vegetation	Other Open Space[3] Acres	% of Total Vegetation	Secondary Access Roads[2]	% of Total Vegetation
Disturbed Habitat	27.3	1	2.1	7	0.0	0		
Urban Developed	13.0	<1	12.5	95	0.6	4		
Orchard	2.4	<0	0.3	12	1.0	41	0.1	4
Intensive Agriculture	4.9	<0	3.6	73	1.3	27		
Eucalyptus Woodland	1.5	<0	1.5	100	0.0	0		
Total Disturbed, Urban Developed, Orchard and Intensive Agriculture Habitats:	49.1		20		2.9		0.1	
Diegan Coastal Sage Scrub	28.6	1	18.7	65	4.0	13	0.4	1
Southern Mixed Chaparral	2,156.6	92	479	22	526.7	24	59.3	2
Mafic S-Mixed Chaparral	57.4	2	0.0	0.0	0.0	0		
Non-native Grassland	23.2	1	17.6	75	1.9	8		
Freshwater Marsh	0.1	<0	0.0	0	0.0	0		
Southern Coast Live Oak Riparian Forest	2.3	<0	1.1	48	0.1	4		
Sycamore Alluvial Woodland	1.6	<0	0.0	0	0.0	0		
Southern Willow Scrub/Mule Fat Scrub	0.3	<0	0.3	100	0.0	0		
Mule-Fat Scrub	0.2	<0	0.0	0	0.2	100		
Southern Willow Scrub	2.6	<0	0.2	8	0.1	3		
Southern Willow Scrub/Tamarisk Scrub	0.6	<0	0.0	0	0.0	0		
Coast Live Oak Woodland	4.2	<0	1.0	19	1.1	39	0.2	4
Unvegetated Wetlands	0.2	<0	0.1	<0	0.0	0		
Total: Native/Naturalized Habitats	2,277.9		518		534.1		59.9	
TOTAL	2,327.0	100%	538.0/23%		537/23%		60.0/3%	

[1] The impact area does not include off-site impacts for Meadow Park Lane which includes: 0.9 acre of disturbed Habitat; 1.2 acres of Diegan Coastal Sage Scrub; 12.9 acres of Southern Mixed Chaparral; 1.3 acres of Urban Development;
0.1 acre of Scrub Oak Woodland, 0.1 acre of Southern Coast Live Oak Riparian Forest and 0.2 acre of Eucalyptus Woodland.

[2] Onsite Secondary Access Roads consist of Lawrence Welk Court and Camino Mayor.

[3] Other Open Space totals include impacts to proposed sewer easement which include: 1.2 acres of southern mixed chaparral

TABLE 10
Merriam Biological Open Space Preserve Conveyance Plan (acres)

Open Space No.	Neighborhood	Development Area	Non-Bio Open Space	Impact Acre	Bio Preserve
OS-2 & OS-3	1	121.0	197.2	318.2	333.5
OS-16	2	65.7	175.4	241.1	252.8
OS-5	3	58.3	56.1	114.4	120.4
OS-7	4	92.6	0	92.6	97.7
OS-6,8,15	5	147.0	163.0	310.0	325.6
OS-4	Estate Lots	53.4	5.3	58.7	62.0
Total		538.0	597.0	1,135.0	1,192.0

TABLE 11
Combined Onsite and Offsite Vegetation Impacts and Mitigation Requirements

Vegetation Type	Existing (on site)	Development Impact (on site)	Other Open Space Impacted (on site)	Access Road Impact (on site)[2]	*Meadow Prk Ln Impact (off site)*[3]	*Deer Springs Rd Impact (off site)*	Total Impact (on site + off site)	County Mitigation Ratio	Mitigation Need4	Preserved On Site	Remaining Mitigation Requirement[5]
Disturbed Habitat	27.3	2.1	0.0	0.0	*0.9*	*1.1*	4.1	0	0.0	25.2	0.0
Urban Developed	13.0	12.5	0.6	0.0	*1.3*	*20.5*	35	0	0.0	0.0	0.0
Orchard	2.4	0.3	1.0	0.1	*0.0*	*0.6*	2.0	0	0.0	1.0	0.0
Intensive Agriculture	4.9	3.6	1.3	0.0	*0.0*	*1.3*	6.2	0	0.0	0.0	0.0
Diegan Coastal Sage Scrub[1]	28.6	18.7	4	0.4	*1.2*	*3.0*	27.3	2	54.6	5.5	49.1
Granitic Southern Mixed Chaparral	2156.6	479	526.7	59.3	*14.2*	*0.0*	10792	0.5	539.6	1091.6	--552.0
Mafic S-Mixed Chaparral	57.4	0.0	0.0	0.0	*0.0*	*0.0*	0.0	3	0.0	57.4	0.0
Non-native Grassland	23.2	17.6	1.9	0.0	*0.0*	*1.2*	20.7	0.5	10.3	3.7	6.6
Freshwater Marsh	0.1	0.0	0.0	0.0	*0.0*	*0.0*	0	3	0.0	N/A	0.0
Southern Coast Live Oak Riparian Forest	2.3	1.1	0.1	0.0	*0.1*	*0.0*	1.3	3	3.9	N/A	3.9
Sycamore Alluvial Woodland	1.6	0.0	0.0	0.0	*0.0*	*0.0*	0	3	0.0	N/A	0.0
Southern Willow Scrub/Mule Fat Scrub	0.3	0.3	0.0	0.0	*0.0*	*0.0*	0.3	3	0.9	N/A	0.9
Mule-Fat Scrub	0.2	0.0	0.2	0.0	*0.0*	*0.0*	0.2	3	0.6	N/A	0.6
Southern Willow Scrub	2.6	0.2	0.1	0.0	*0.0*	*0.0*	0.3	3	0.9	N/A	0.9
Southern Willow Scrub/Tamarisk Scrub	0.6	0.0	0.0	0.0	*0.0*	*0.0*	0	3	0.0	N/A	0.0
Coast Live Oak Woodland	4.2	1.0	1.1	0.2	*0.0*	*0.0*	2.4	3	7.2	1.9	5.3
Eucalyptus Woodland	1.5	1.5	0.0	0.0	*0.2*	*1.4*	3.1	0	0.0	0.0	0.0
Non-vegetated Channel	0.0	0.0	0.0	0.0	*0.0*	*0.8*	0.8	1	0.8	0.0	0.8
Unvegetated Wetlands	0.2	0.1	0.0	0.0	*0.0*	*0.0*	0.1	3	0.3	N/A	0.3
TOTAL	2327.0	538	537	60.0	*17.9*	*30*	1183			1192	

[1] Includes Coast Sage Scrub-Chaparral Scrub & Disturbed CSS-CS

[2] Includes Lawrence Welk Court & Camino Mayor

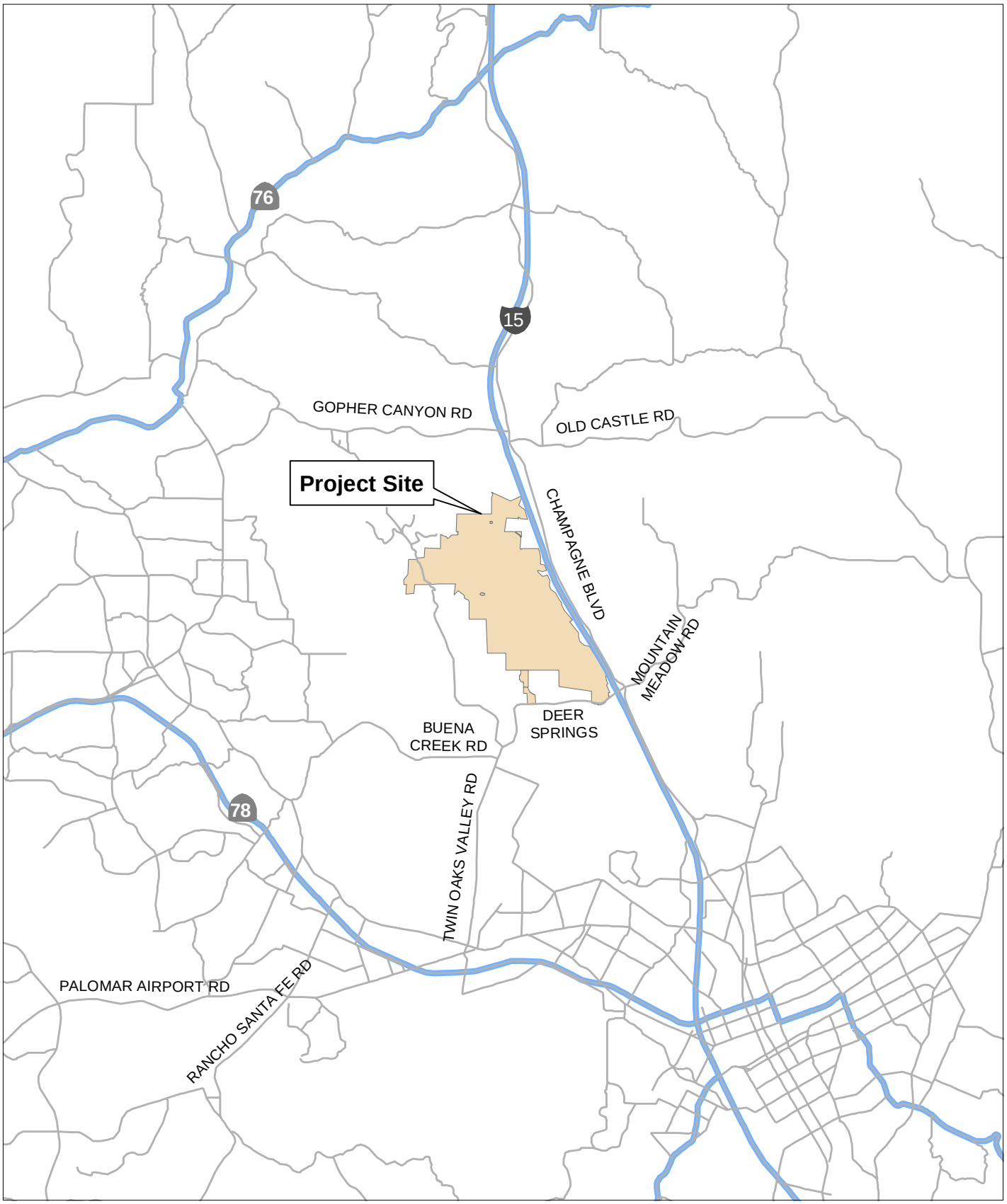
[3] Includes Off-site Sewer Easement

[4] See Jurisdictional Impact Table for Additional Details

[5] Negative numbers mean no off site mitigation necessary

TABLE 12
Comparison of Cumulative Vegetation Impacts from Assessment Area with Impacts from the Merriam Project

Vegetation Type	Cumulative Impact \Total	Merriam SP Cumulative Contribution (ac)	Merriam SP Cumulative Contribution (%)
Eucalyptus Woodland	6.6	3.1	46.6
Disturbed Habitat	35.3	4.1	11.6
Urban Developed	68.0	35	51.4
Agriculture	81.8	8.2	10.1
Diegan Coastal Sage Scrub	366.2	27.3	7.4
Chaparral	1185.4	1079.3	91.0
Non-native Grassland	111.7	20.7	18.5
Grassland	0.0	0.0	0.0
Riparian	3.8	1.3	33.5
Wetland	4.2	2.1	49.5
Coyote Bush Scrub	0.6	0.0	0.0
Southern Willow Scrub	5.4	0.6	10.9
Scrub Oak Woodland	2.9	0.0	0.0
Oak	22.8	2.4	10.48
Total	1894.6	1184.1	N. A.



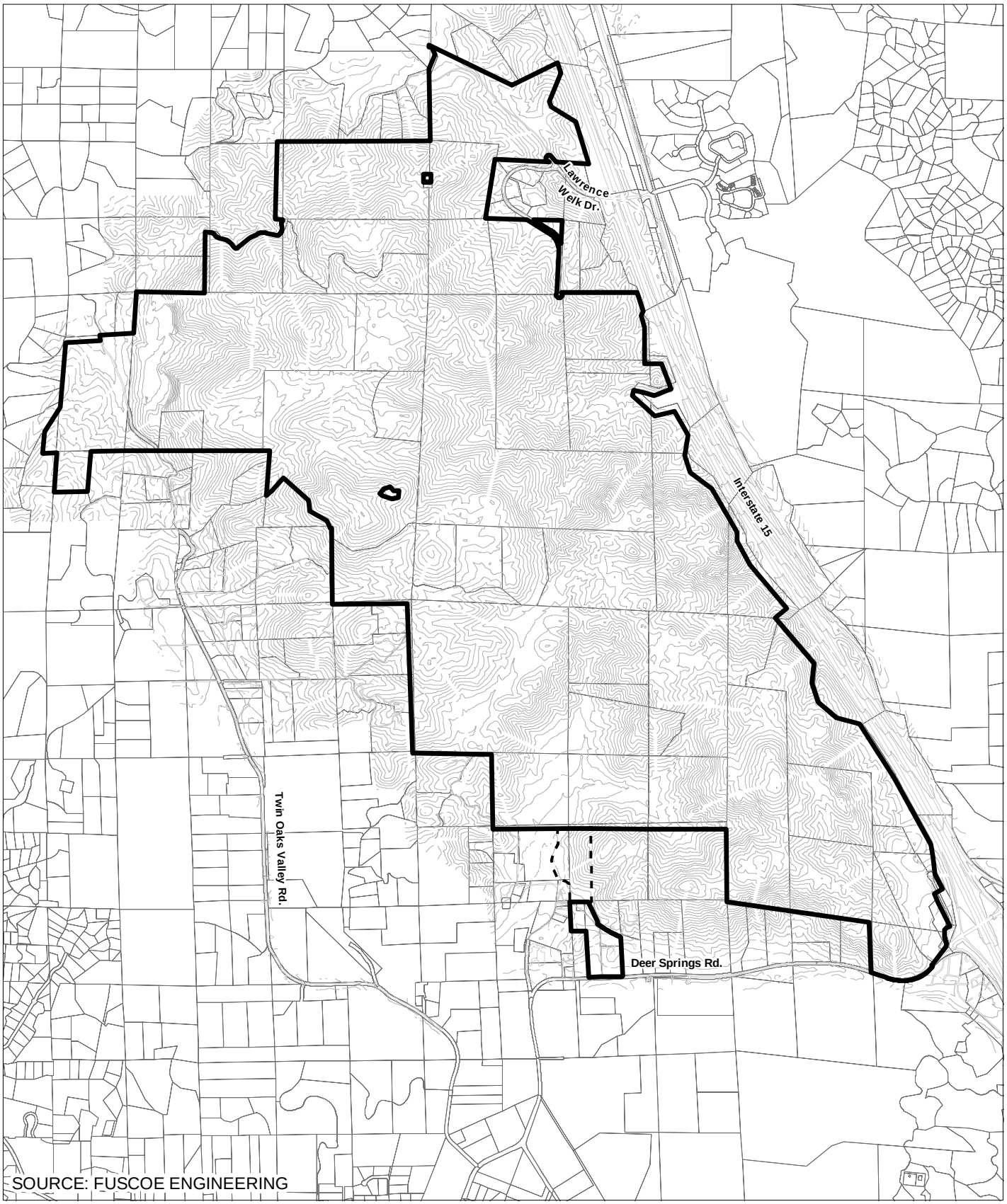
Regional Map

FIGURE 1

MERRIAM MOUNTAINS SPECIFIC PLAN
BIOLOGICAL RESOURCES REPORT

0 1 2 4
Miles

N



SOURCE: FUSCOE ENGINEERING

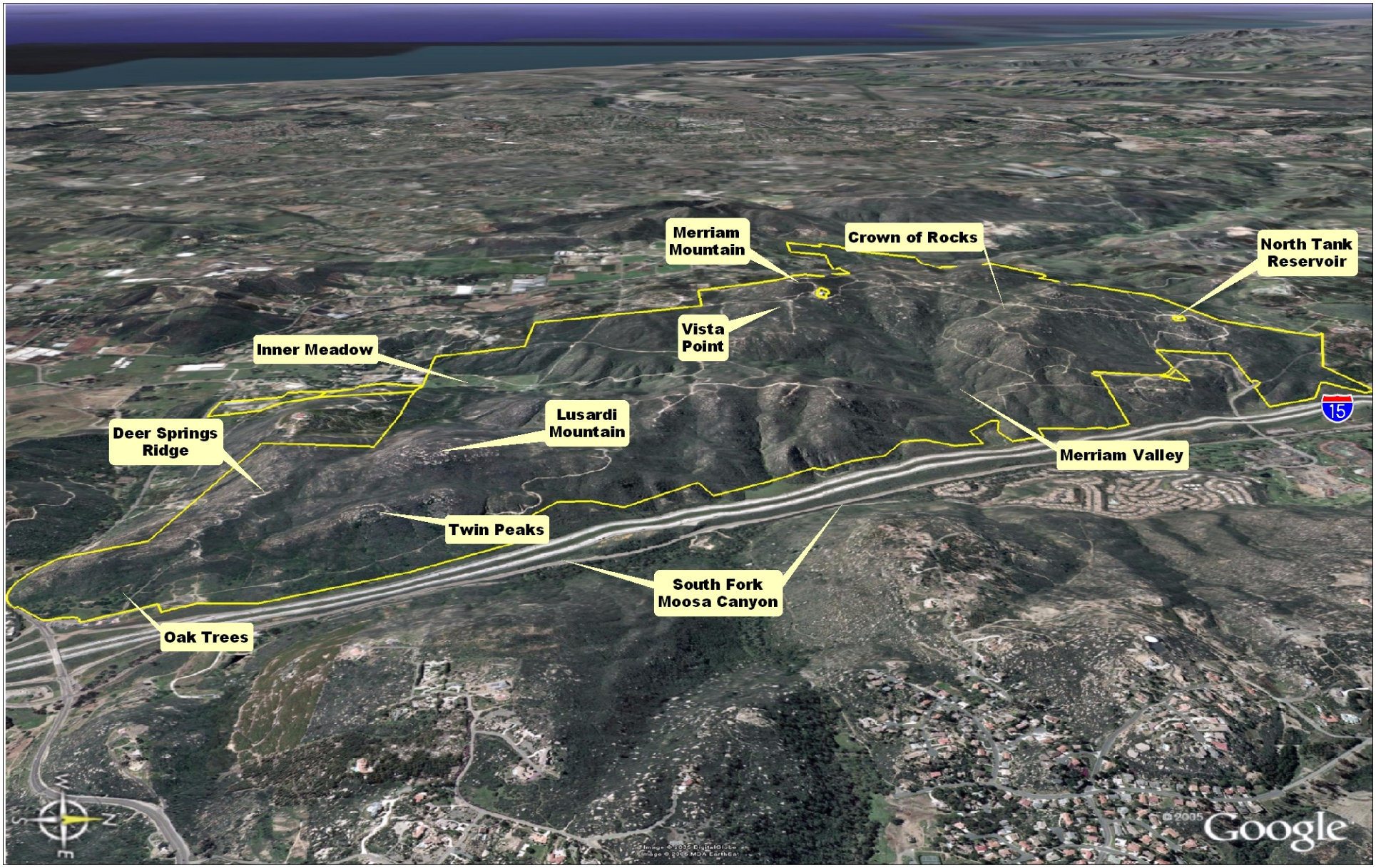
Vicinity Map

FIGURE 2

MERRIAM MOUNTAINS SPECIFIC PLAN
BIOLOGICAL RESOURCES REPORT

0 1,200 2,400 4,800
Feet

N

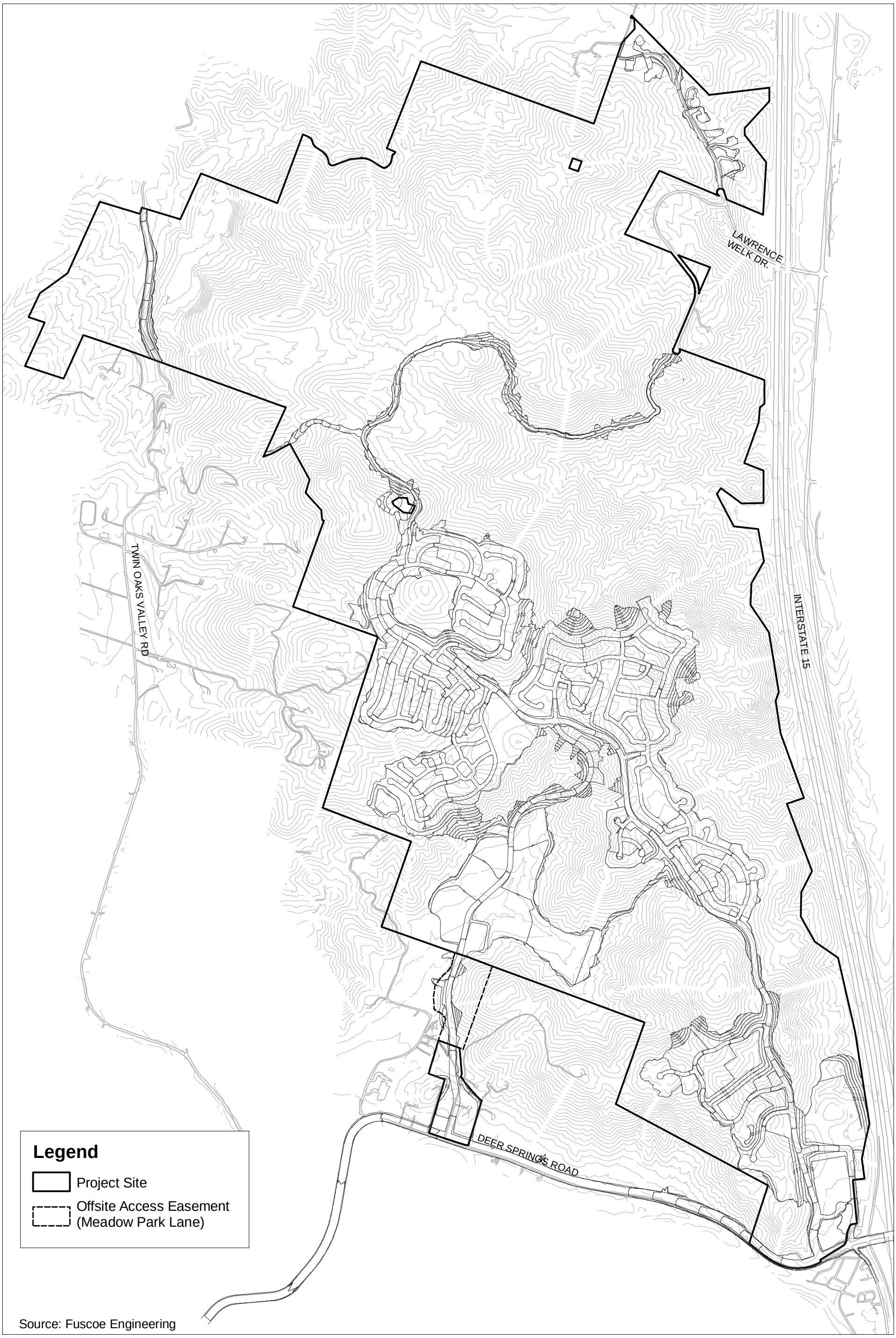


Visual Overview Looking West

FIGURE 3

MERRIAM MOUNTAINS SPECIFIC PLAN
BIOLOGICAL RESOURCES REPORT

N



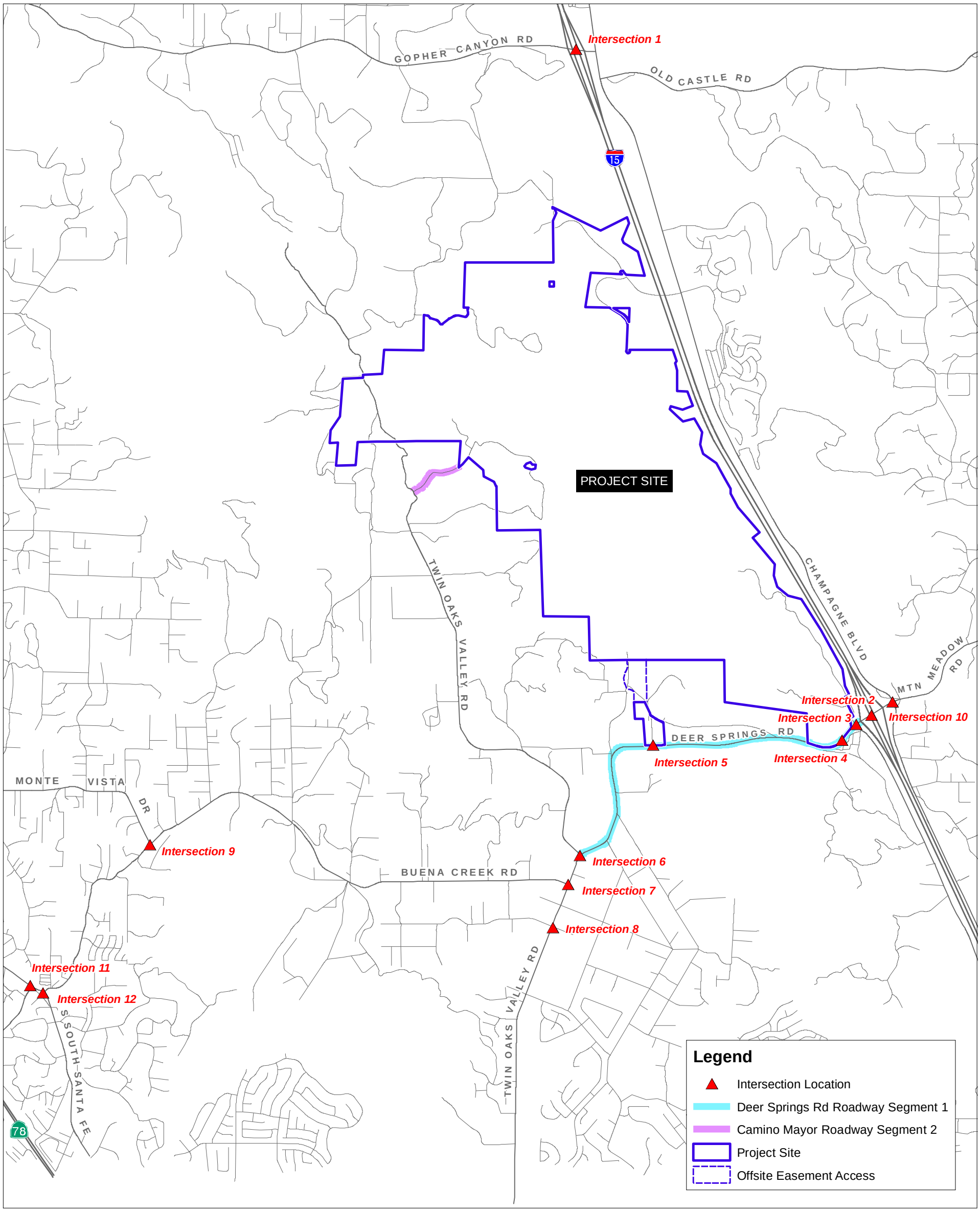
Proposed Project - Grading Areas

FIGURE 4

MERRIAM MOUNTAINS SPECIFIC PLAN BIOLOGICAL RESOURCES REPORT

0 0.125 0.25 0.5
Miles

N



INTERSECTIONS

Intersection 1: Gopher Canyon / I-15

Intersection 2: Deer Springs Rd / I-15

Intersection 3: Deer Springs Rd / Mesa Rock Rd

Intersection 4: Deer Springs Rd / Merriam Mtn Pkwy

Intersection 5: Deer Springs Rd / Meadow Park Ln

Intersection 6: Deer Springs Rd / Twin Oaks Valley Rd

Intersection 7: Twin Oaks Valley Rd / Buena Creek Rd

Intersection 8: Twin Oaks Valley Rd / Cassou Rd

Intersection 9: Buena Creek Rd / Monte Vista Dr

Intersection 10: Champagne Blvd / Mountain Meadow Rd

Intersection 11: Robelini Dr / S Santa Fe Av

Intersection 12: Buena Creek Rd / S Santa Fe Av

ROADWAY SEGMENTS

Roadway 1: Deer Springs Rd Roadway Segment

Roadway 2: Camino Mayor Roadway Segment

NOTE:

SEE FIGURE 6A FOR AERIAL VIEWS OF INTERSECTIONS 1 - 5

SEE FIGURE 6B FOR AERIAL VIEWS OF INTERSECTIONS 6-9

SEE FIGURE 6C FOR AERIAL VIEWS OF INTERSECTIONS 10-12 AND CAMINO MAYOR ROADWAY SEGMENT

Merriam Mountains Offsite Intersection & Roadway Segment Improvements

FIGURE 5

MERRIAM MOUNTAINS SPECIFIC PLAN BIOLOGICAL RESOURCES REPORT

0 1,500 3,000 6,000

Feet

N

INTERSECTION 1: I-15 / Gopher Canyon Rd

I-15 SB Ramps/Gopher Canyon Road (Caltrans) – If not completed by another development, ensure the installation of a new traffic signal. A detailed signal warrant analysis shall be conducted prior to issuance of a certificate of occupancy for the first dwelling unit in Phase I. The signal shall not be installed until warrants are met.

I-15 NB Ramps/Gopher Canyon Road (Caltrans) – If not completed by another development, ensure the installation of a new traffic signal. A detailed signal warrant analysis shall be conducted prior to issuance of a certificate of occupancy for the first dwelling unit in Phase I. The signal shall not be installed until warrants are met.

INTERSECTION 2: I-15 / Deer Springs Rd

I-15 NB Ramps/Deer Springs Road (CALTRANS) – Widen the I-15/Deer Springs Road interchange to provide the lane configuration resulting from the CALTRANS Project Study Report process (to be prepared in consultation with CALTRANS as part of this mitigation that is due to traffic added by the Merriam Mountains Project). This mitigation measure is required prior to issuance of a certificate of occupancy for the first dwelling unit in Phase I.

I-15 SB Ramps/Deer Springs Road (CALTRANS) – Widen the I-15/Deer Springs Road interchange to provide the lane configuration resulting from the CALTRANS Project Study Report process. (To be prepared in consultation with CALTRANS as part of this mitigation that is due to traffice being added by the Merriam Mountains Project). This mitigation measure is required prior to issuance of a certificate of occupancy for the first dwelling unit in Phase I.

INTERSECTION 3: Mesa Rock Rd / Deer Springs Rd

Mesa Rock Road/Deer Springs Road (San Diego County) – Improve the intersection to provide the following geometry:

SB – One left-turn lane and one shared through/ right lane

WB – One left-turn lane, two through lanes, one through/right lane and one right lane

NB – One left-turn lane and one shared through/ right lane

EB – One left-turn lane, two through lanes and one shared through/right lane

This mitigation measure is required prior to issuance of a certificate of occupancy for the first dwelling unit in Phase I.

INTERSECTION 4: Merriam Mountains Pkwy / Deer Springs Rd

Merriam Mountains Parkway/Deer Springs Road (San Diego County) - Provide a traffic signal and implement the following lane configuration improvements to the satisfaction of the County of San Diego Department of Public Works. A detailed signal warrant analysis shall be conducted prior to issuance of a certificate of occupancy for the first dwelling unit in Phase I. The signal shall not be installed until warrants are met.

SB – Two left-turn lanes and one right-turn lane

WB – One through lane, one shared through/right lane and one right-turn lane

EB – Two left-turn lanes and two through lanes

INTERSECTION 5: Meadow Park Ln / Deer Springs Rd

Meadow Park Lane /Deer Springs Road (San Diego County) - Provide a traffic signal and implement the following lane configuration improvements to the satisfaction of the County of San Diego Department of Public Works. A detailed signal warrant analysis shall be conducted prior to issuance of a certificate of occupancy for the first dwelling unit in Phase I. The signal shall not be installed until warrants are met.

SB – Two left-turn lanes and one right-turn lane

WB – One through lane, one shared through/right lane and one right-turn lane

EB – One left-turn lane and two through lanes

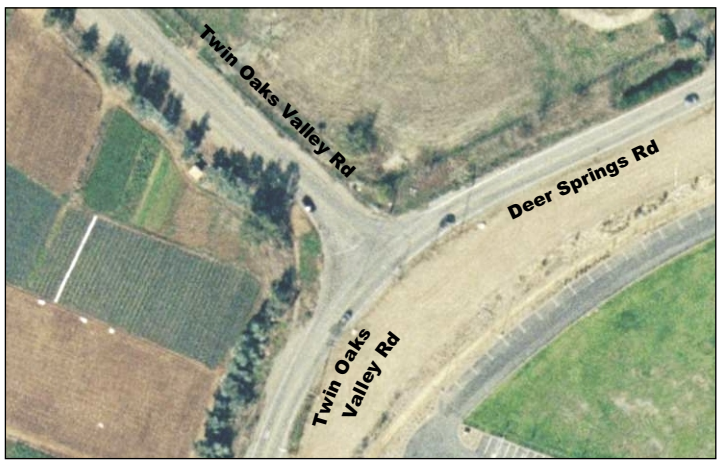
AERIAL SOURCE: AIRPHOTO USA, JAN. 2006

Aerial Views of Offsite Intersection Improvements: Intersections 1-5

FIGURE 6A

MERRIAM MOUNTAINS SPECIFIC PLAN BIOLOGICAL RESOURCES REPORT

N



INTERSECTION 6: Twin Oaks Valley Rd / Deer Springs Rd

Twin Oaks Valley Road/Deer Springs Road (San Diego County/City of San Marcos) - If not completed by another development, ensure a traffic signal and the following lane configuration improvements are implemented to the satisfaction of the County of San Diego & City of San Marcos Department of Public Works. This mitigation shall be implemented prior to issuance of a certificate of occupancy for the first dwelling unit in Phase I.

SB – One through lane and one shared through/right lane

NB – One left-turn lane and two through lanes

EB – One left-turn lane and one right-turn lane

INTERSECTION 8: Twin Oaks Valley Rd / Cassou Rd

Twin Oaks Valley Road/Cassou Road (City of San Marcos) - If not completed by another development, ensure the following lane configuration improvements are implemented to the satisfaction of the City of San Marcos Department of Public Works.

SB – One left-turn lane, one through lane and one shared through/right lane

WB – One left-turn lane and one shared through/right lane

NB – One left-turn lane, two through lanes and one right-turn lane

EB – One left-turn lane and one shared through/right lane

This mitigation measure is required prior to issuance of a certificate of occupancy for the first dwelling unit in Phase II.

INTERSECTION 7: Twin Oaks Valley Rd / Buena Creek Rd

Twin Oaks Valley Road/Buena Creek Road (City of San Marcos) - If not completed by another development, ensure the following lane configuration improvements are implemented to the satisfaction of the City of San Marcos Department of Public Works.

SB – One left-turn lane and two through lanes and one right-turn lane

WB – One shared left/through/right lane

NB – One left-turn lane, one through lane and one shared through/right lane

EB – Two left-turn lanes and one shared through/right lane

This mitigation measure is required prior to issuance of a certificate of occupancy for the first dwelling unit in Phase I.

INTERSECTION 9: Monte Vista Dr / Buena Creek Rd

Monte Vista Road/Buena Creek Road (San Diego County) - If not completed by another development, ensure a traffic signal and the following lane configuration improvements are implemented to the satisfaction of the County of San Diego Department of Public Works. A detailed signal warrant analysis shall be conducted prior to issuance of a certificate of occupancy for the first dwelling unit in Phase I. The signal shall not be installed until warrants are met.

SB – One shared left/right lane

WB – One through lane and one right-turn lane with right-turn-overlap

EB – One left-turn lane and one through lane

AERIAL SOURCE: AIRPHOTO USA, JAN. 2006

Aerial Views of Offsite Intersection Improvements: Intersections 6-9

FIGURE 6B

MERRIAM MOUNTAINS SPECIFIC PLAN BIOLOGICAL RESOURCES REPORT

N

INTERSECTION 10: Mountain Meadow Rd / Champagne Blvd

Mountain Meadows Road/Champagne Boulevard (San Diego County) – If not completed by another development, provide a traffic signal to the satisfaction of the County of San Diego Department of Public Works. A detailed signal warrant analysis shall be conducted prior to issuance of a certificate of occupancy for the first dwelling unit in Phase I. The signal shall not be installed until warrants are met.

INTERSECTION 11: Robelini Dr / S Santa Fe Av

Robelini Drive from Sycamore Avenue to S. Santa Fe Avenue (San Diego County) – Extend the northbound right lane on Robelini Drive at South Santa Fe Avenue from the current 130 feet in length to 260 feet in length. This doubling of the right-turn lane length will enable 10-12 vehicles to queue before the adjacent left-turn lane is negatively impacted, twice the current queue length. This mitigation is required prior to issuance of a certificate of occupancy for the first dwelling unit in Phase II

INTERSECTION 12: S Santa Fe Av / Buena Creek Rd

1) South Santa Fe Avenue/Buena Creek Road (San Diego County) – If not completed by another development, ensure the following lane configuration improvements are implemented to the satisfaction of the County of San Diego Department of Public Works.

SB – One left-turn lane and one right-turn lane with right-turn-overlap

WB – One through lane and one right-turn lane

EB – One left-turn lane and one through lane

2) Improve the South Santa Fe Avenue/Buena Creek Road intersection to provide a dedicated right lane on northbound South Santa Fe Avenue and dedicated right and left lanes on southbound Buena Creek Road. This improvement will add capacity along the impacted segment. This mitigation is required prior to issuance of a certificate of occupancy for the first dwelling unit in Phase II.

ROADWAY SEGMENT 2: CAMINO MAYOR

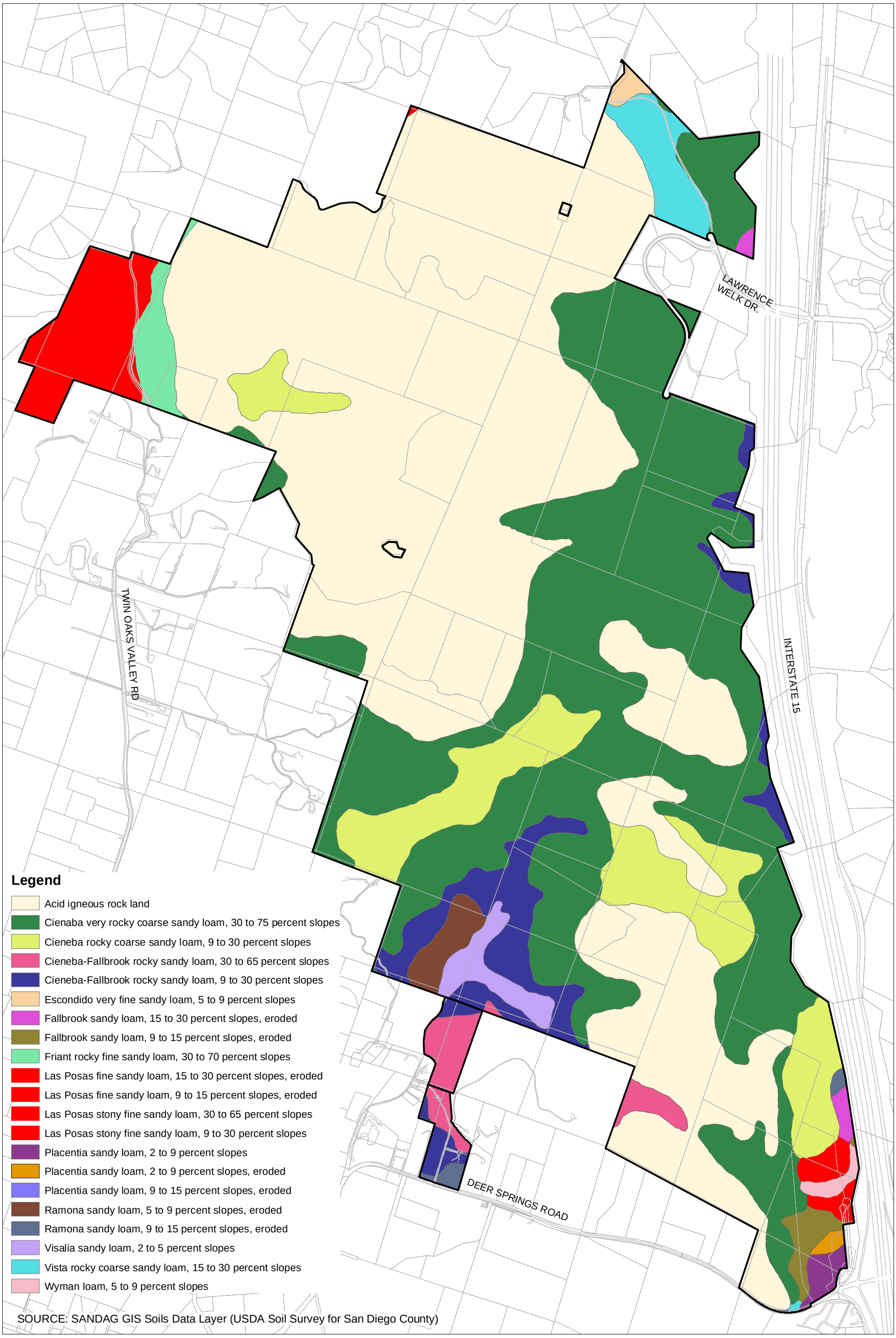
Camino Mayor will be improved to provide a paved secondary emergency gated access roadway within an existing disturbed 40-foot easement. The roadway will be improved from the western project limits to Twin Oaks Valley Road.

AERIAL SOURCE: AIRPHOTO USA, JAN. 2006

Aerial Views of Offsite Intersection & Roadway Segment Improvements: Intersections 10-12 & Camino Mayor Roadway Segment

FIGURE 6C

N



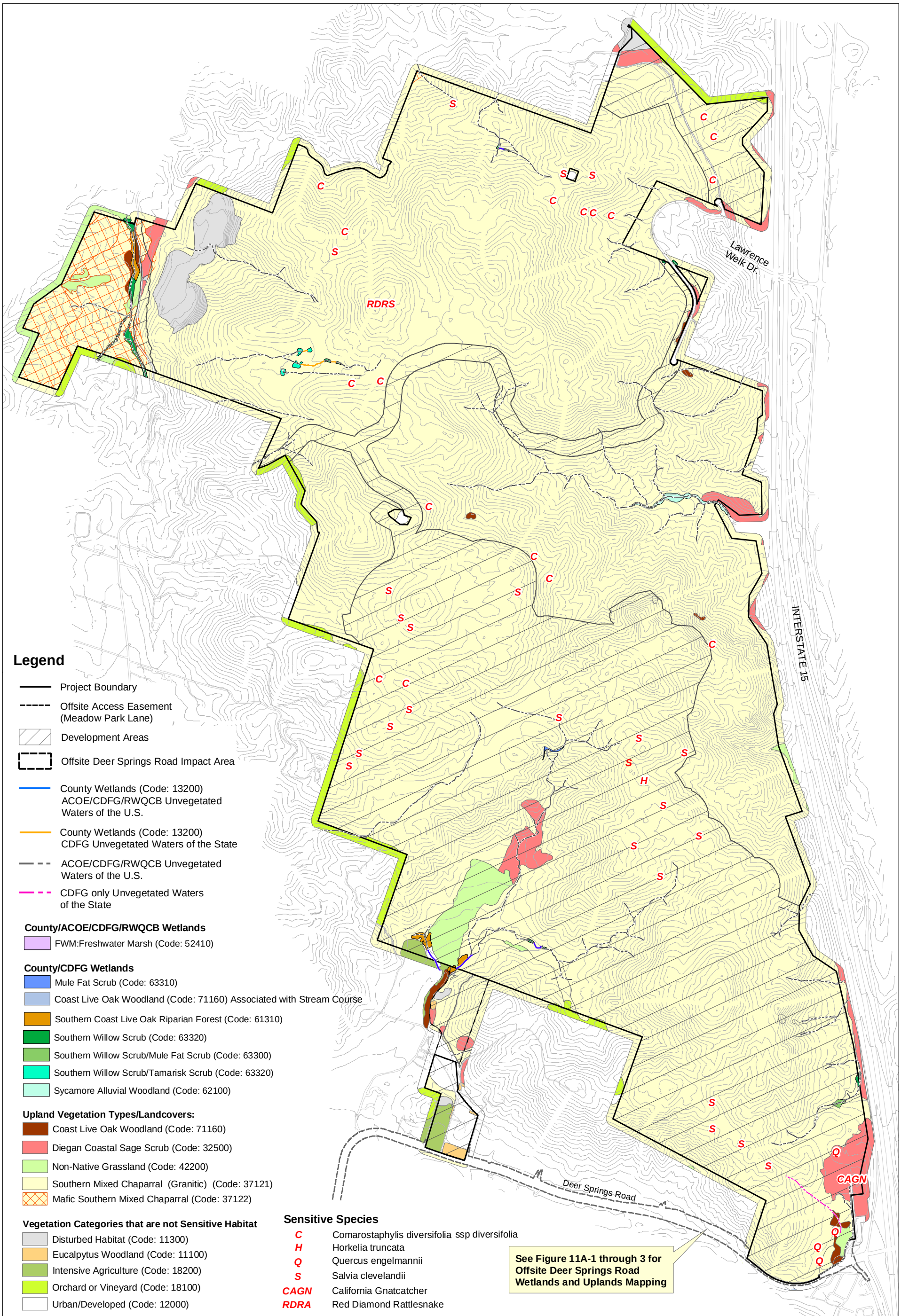
Soils Map

FIGURE 7

MERRIAM MOUNTAINS SPECIFIC PLAN
BIOLOGICAL RESOURCES REPORT

0 0.125 0.25 0.5
Miles

N



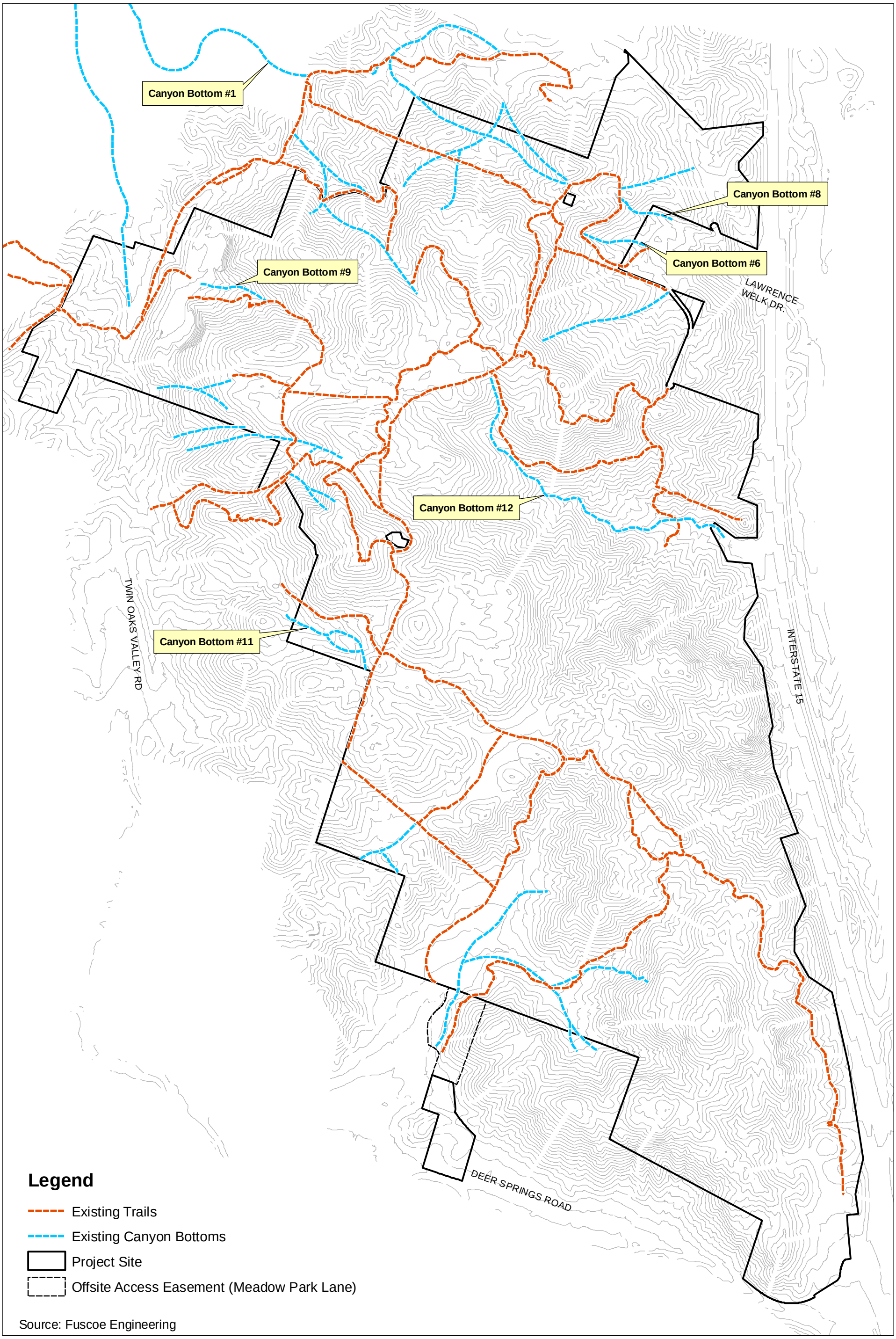
Biological Resources Map - Onsite

FIGURE 8

MERRIAM MOUNTAINS SPECIFIC PLAN BIOLOGICAL RESOURCES REPORT

0 0.125 0.25 0.5
Miles

N



Source: Fuscoe Engineering

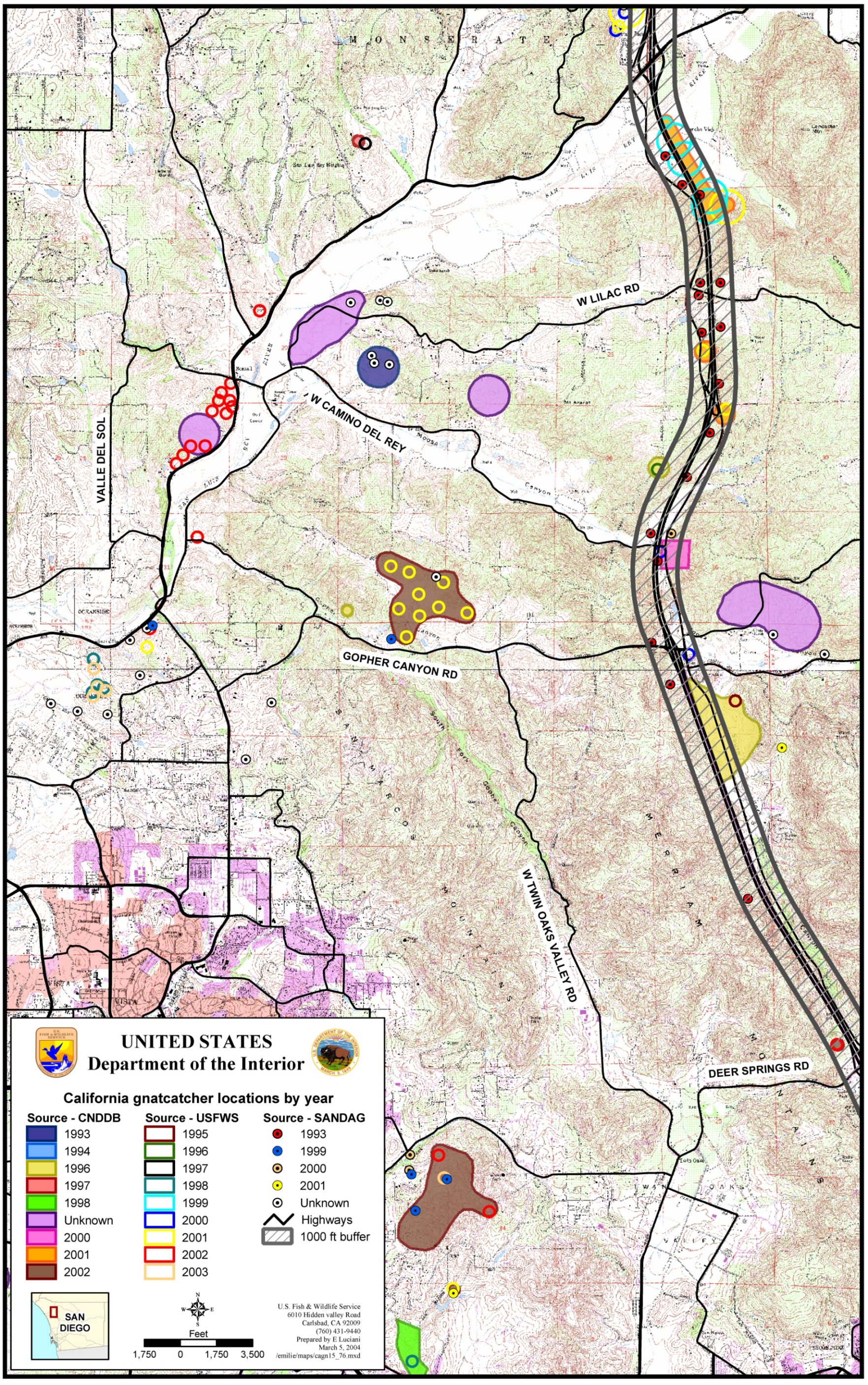
Existing Wildlife Movement

FIGURE 9

MERRIAM MOUNTAINS SPECIFIC PLAN
BIOLOGICAL RESOURCES REPORT

0 0.125 0.25 0.5
Miles

N

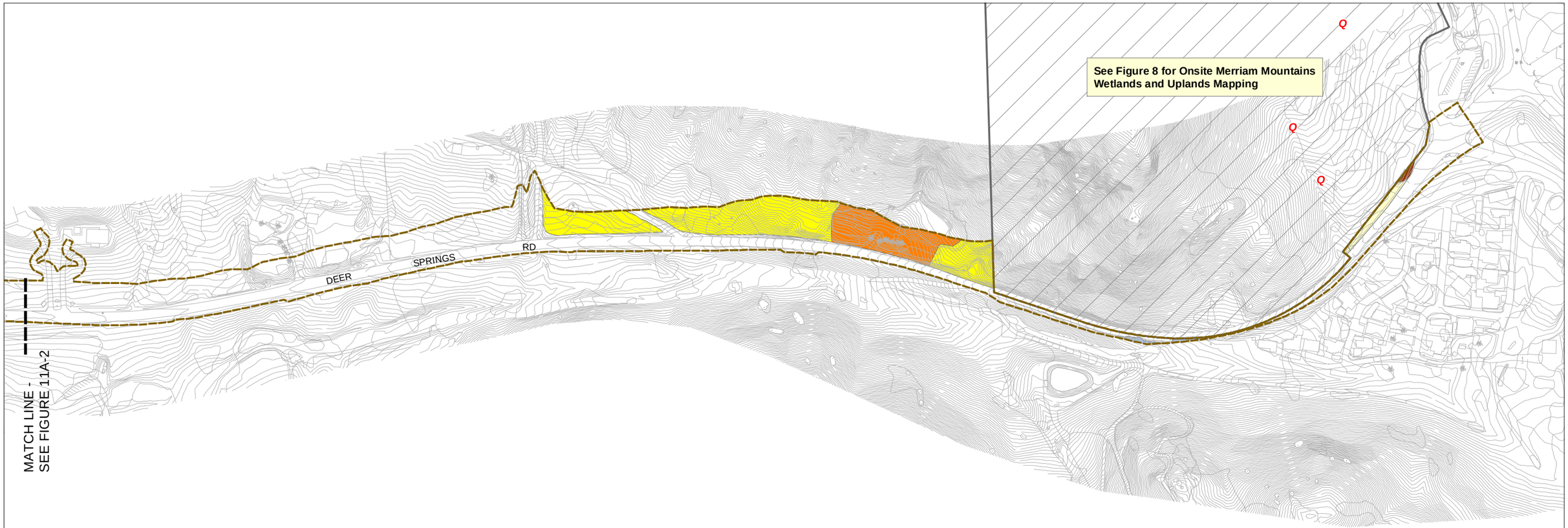


CAGN Locations in I-15 Corridor

FIGURE
10

MERRIAM MOUNTAINS SPECIFIC PLAN
BIOLOGICAL RESOURCES REPORT

N



Legend

- Offsite Deer Springs Road Impact Area
- Onsite Development Areas
- Project Boundary

Sensitive Species

Q — Quercus engelmannii

County/CDFG Wetlands

- Coast Live Oak Woodland Associated with Stream Course (Code: 71160)

County Wetlands

- ACOE/CDFG/RWQCB Unvegetated Waters of the U.S.

Upland Vegetation Types/Landcovers:

- Coast Live Oak Woodland (Code: 71160)
- Non-Native Grassland (Code: 42200)
- Southern Mixed Chaparral (Granitic) (Code: 37121)
- Coastal Sage-Chaparral Scrub (Code: 37920)
- Coastal Sage-Chaparral Scrub (disturbed) (Code: 37920)

Vegetation Categories that are not Sensitive Habitat:

- Disturbed Habitat (Code: 11300)
- Eucalpytus Woodland (Code: 11100)
- Orchard or Vineyard (Code: 18100)
- General Agriculture (Code: 18000)
- Urban/Developed (Code: 12000)

County Wetlands/Vegetation & Species Data Source: Pacific Southwest Biological Services, Inc.

Biological Resources Map - Offsite Deer Springs Road Impact Area

FIGURE 11A-1

MERRIAM MOUNTAINS SPECIFIC PLAN BIOLOGICAL RESOURCES REPORT

0 75 150 300
Feet

N

Legend

- Offsite Deer Springs Road Impact Area
- Onsite Development Areas
- Project Boundary

County/CDFG Wetlands

- Coast Live Oak Woodland Associated with Stream Course (Code: 71160)

County Wetlands

- ACOE/CDFG/RWQCB Unvegetated Waters of the U.S.

Upland Vegetation Types/Landcovers:

- Coast Live Oak Woodland (Code: 71160)
- Non-Native Grassland (Code: 42200)
- Southern Mixed Chaparral (Granitic) (Code: 37121)
- Coastal Sage-Chaparral Scrub (Code: 37920)
- Coastal Sage-Chaparral Scrub (disturbed) (Code: 37920)

Vegetation Categories that are not Sensitive Habitat:

- Disturbed Habitat (Code: 11300)
- Eucalpytus Woodland (Code: 11100)
- Orchard or Vineyard (Code: 18100)
- General Agriculture (Code: 18000)
- Urban/Developed (Code: 12000)

County Wetlands/Vegetation & Species Data Source: Pacific Southwest Biological Services, Inc.

Biological Resources Map - Offsite Deer Springs Road Impact Area

FIGURE 11A-2

MERRIAM MOUNTAINS SPECIFIC PLAN
BIOLOGICAL RESOURCES REPORT

0 150 300 600
Feet

N

Legend

- Offsite Deer Springs Road Impact Area
- Onsite Development Areas
- Project Boundary

County/CDFG Wetlands

- Coast Live Oak Woodland Associated with Stream Course (Code: 71160)

County Wetlands

- ACOE/CDFG/RWQCB Unvegetated Waters of the U.S.

Upland Vegetation Types/Landcovers:

- Coast Live Oak Woodland (Code: 71160)
- Non-Native Grassland (Code: 42200)
- Southern Mixed Chaparral (Granitic) (Code: 37121)
- Coastal Sage-Chaparral Scrub (Code: 37920)
- Coastal Sage-Chaparral Scrub (disturbed) (Code: 37920)

Vegetation Categories that are not Sensitive Habitat:

- Disturbed Habitat (Code: 11300)
- Eucalpytus Woodland (Code: 11100)
- Orchard or Vineyard (Code: 18100)
- General Agriculture (Code: 18000)
- Urban/Developed (Code: 12000)

County Wetlands/Vegetation & Species Data Source: Pacific Southwest Biological Services, Inc.

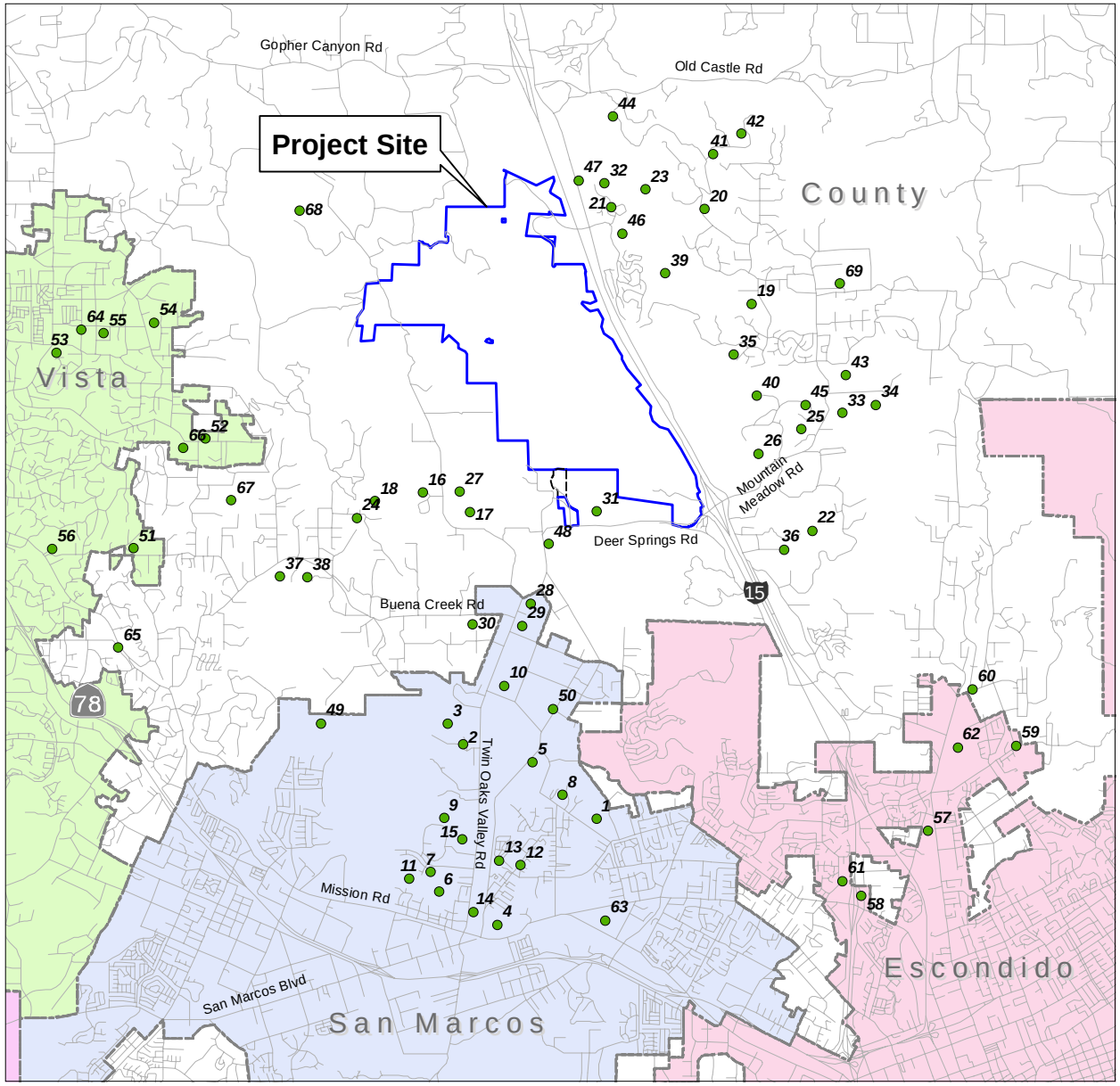
Biological Resources Map - Offsite Deer Springs Road Impact Area

FIGURE 11A-3

MERRIAM MOUNTAINS SPECIFIC PLAN
BIOLOGICAL RESOURCES REPORT

0 150 300 600
Feet

N



Cumulative Projects

NO.	PROJECT NAME	NO.	PROJECT NAME
1	Rose Ranch	36	Heritage Valley Estates
2	Del Roy Drive Residential	37	Sugarbush
3	Malone Street Residential	38	DKST
4	Vineyard Residential	39	Villas on the Green
5	Mulberry Residential	40	Meadows 35
6	Liberty Ln Residential	41	The Oaks
7	Glendale Residential	42	Odell
8	Mulberry/Rose Ranch Residential	43	Hidden Meadows
9	Windy Way Residential	44	Woodhead Minor Residential
10	Sycamore/Cox Residential	45	Choi TM
11	Mission Rd Residential	46	Welcome View
12	Vineyard/Shirley Residential	47	Canyon Villas
13	Woodward/Borden Condos	48	TERI
14	Richmar Ave Retail	49	San Marcos Highlands
15	Windy Way Industrial	50	TSM 459
16	Merriam West Ranch	51	Monte Vista Dr. PC2-072
17	Twin Oaks Farm	52	San Clemente TSM
18	Via Conca D'Oro Residential	53	Vineyards Specific Plan
19	Hidden Meadows II	54	Grandview Rd. TSM
20	Rim Rock	55	Craftsman Condominiums
21	Champagne Gardens	56	Monte Vista Dr. PC2-090
22	Mountain Gate	57	Meadowbrook Village
23	Garden Villas	58	Tract 868
24	Plamondon TPM/Emma Estates	59	Tract 892
25	Piro/Ciba TMs	60	Tract 916
26	Black TM	61	Fire Station #3
27	Rimsa TM	62	Reidy Creek
28	Discovery Valley Equestrian & Canine Center	63	Hollandia Project
29	Walnut Grove Park	64	Foothill Oak Elementary
30	Casa de Amparo Group Care Facility	65	Hannalei Elementary
31	Pizzuto	66	Rancho Minerva
32	Brooks & Kiersey Driveway	67	Vista Irrigation District Pipeline Access
33	Arend Brouwer	68	National Quarries
34	Washington Meadows	69	Paradigm
35	Raisigel/Fejeran		

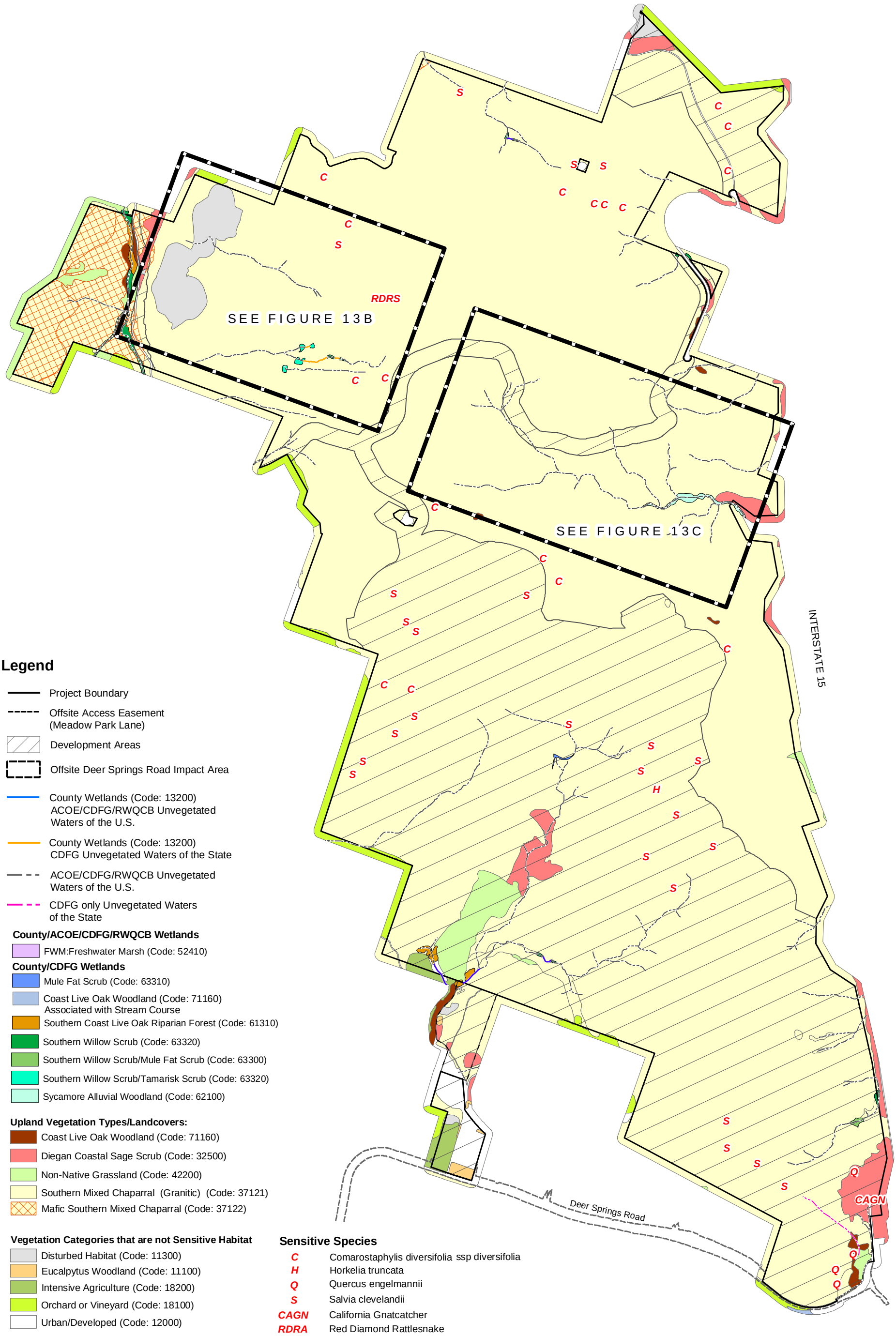
Cumulative Projects

FIGURE 12

MERRIAM MOUNTAINS SPECIFIC PLAN
BIOLOGICAL RESOURCES REPORT

0 0.75 1.5 3
Miles

N



County Wetlands/Vegetation & Species Data Source: Pacific Southwest Biological Services, Inc.

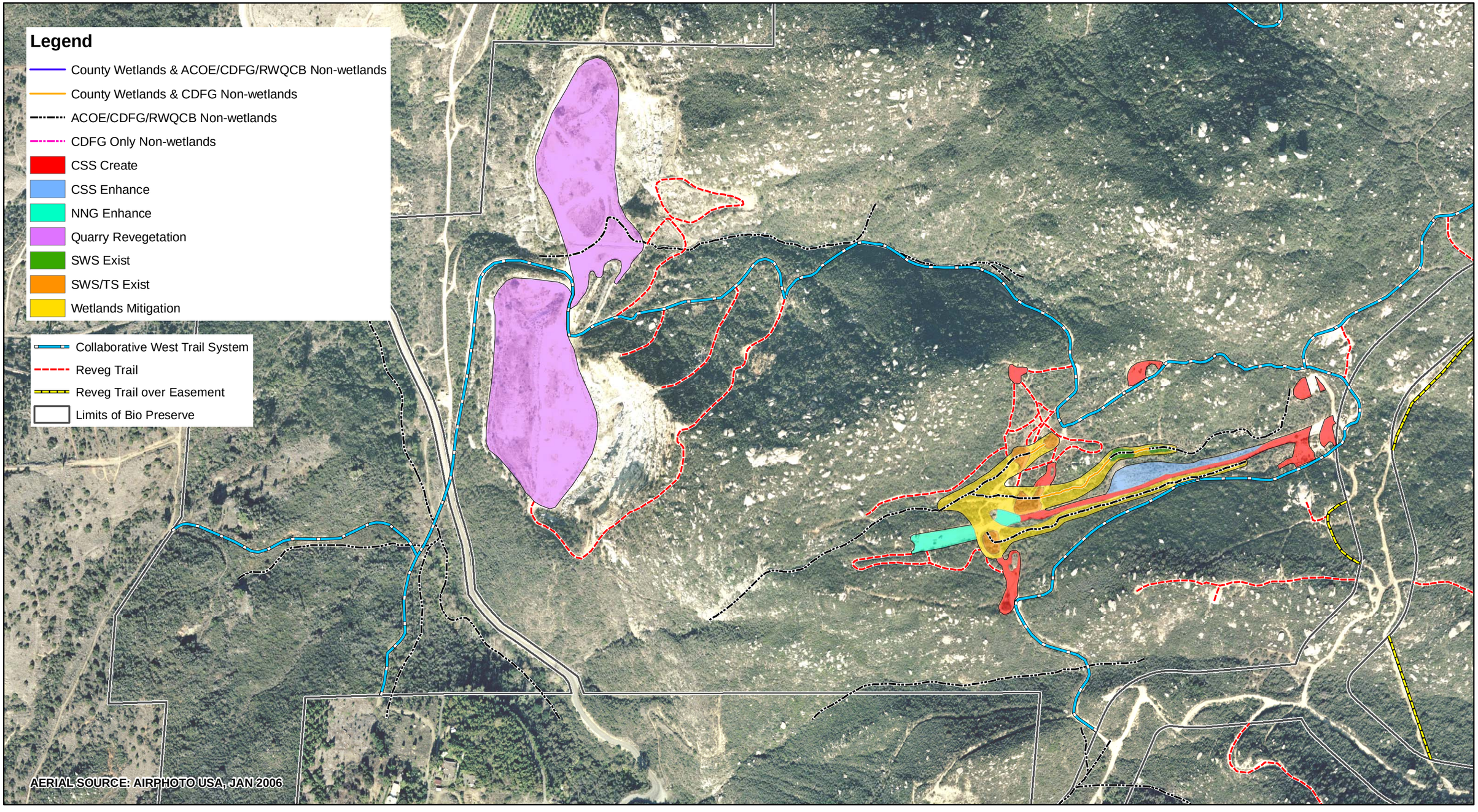
Wetlands and Uplands Onsite Mitigation Conceptual Revegetation Plan Index

FIGURE 13A

MERRIAM MOUNTAINS SPECIFIC PLAN
BIOLOGICAL RESOURCES REPORT

0 0.125 0.25 0.5
Miles

N



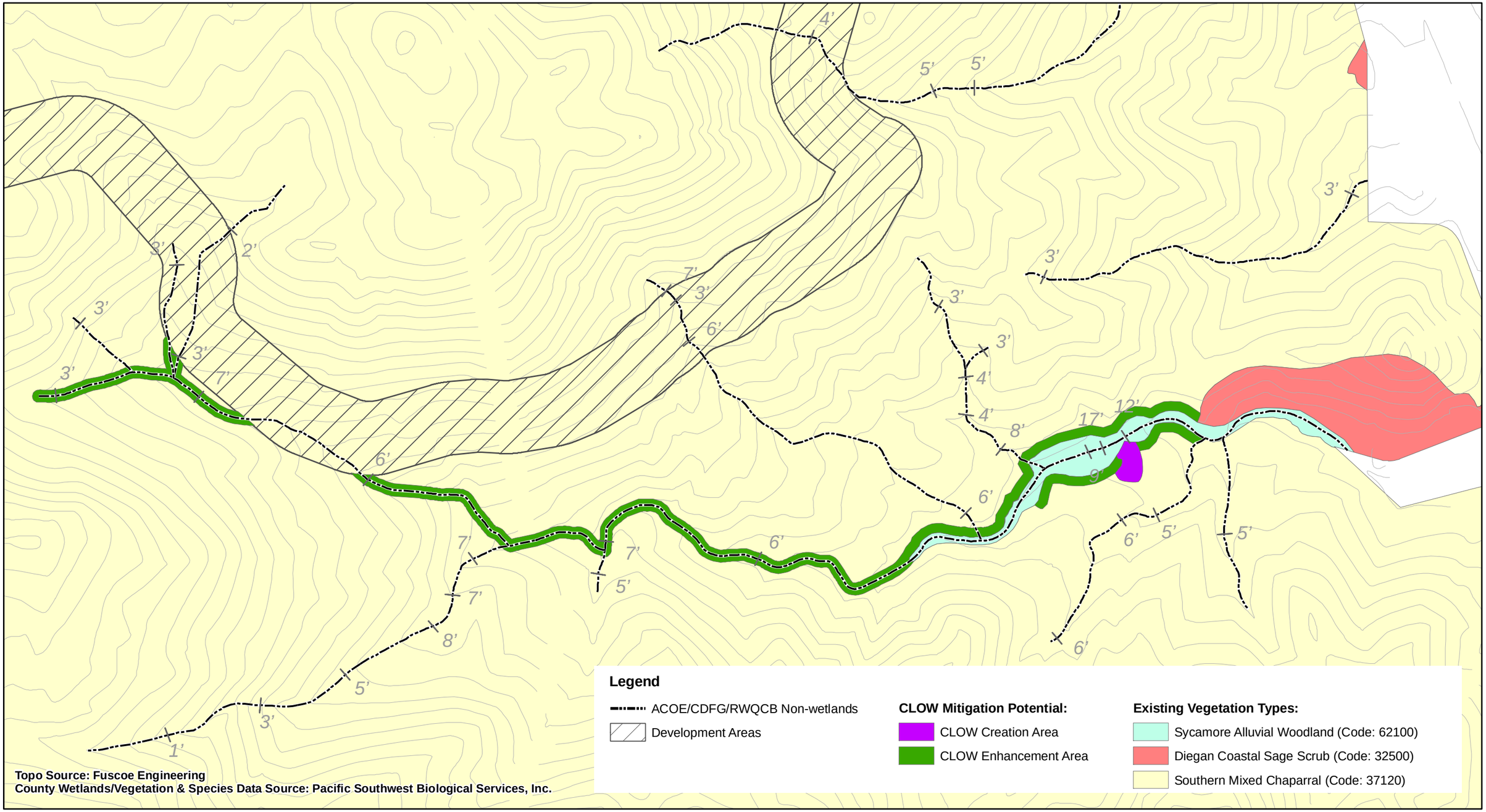
Willow Scrub Wetlands and Coastal Sage Scrub Uplands Revegetation at Abandoned Airstrip and Quarry

FIGURE
13B

MERRIAM MOUNTAINS SPECIFIC PLAN
BIOLOGICAL RESOURCES REPORT

0 200 400 800 Feet

N



Coast Live Oak Woodland Mitigation Potentials at Main Onsite Open Space Drainage

FIGURE
13C

MERRIAM MOUNTAINS SPECIFIC PLAN
BIOLOGICAL RESOURCES REPORT

0 150 300 600 Feet

N

APPENDIX 1

Floral Checklist of Species Observed on the Merriam Mountains Property

APPENDIX 1. FLORAL CHECKLIST OF SPECIES OBSERVED ON THE MERRIAM MOUNTAINS PROPERTY

CRYPTOGAMS

Dryopteridaceae - Wood Fern Family
Dryopteris arguta (Kaulf.) Watt Coastal Woodfern

Pteridaceae - Brake Family
Cheilanthes newberryi (D.C.Eaton) Domin.
Notholaena californica D.C. Eaton
Pellaea andromediaefolia (Kaulf.)Fee
Pellaea mucronata (D.C. Eaton) D.C. Eaton var. *mucronata* Bird's-foot Fern
Pentagramma triangularis (Kaulf.)G. Yat. var. *triangularis*

Selaginellaceae - Spike-Moss Family
Selaginella bigelovii Underw. Bigelow's Mossfern

DICOTYLEDONS

Anacardiaceae - Sumac Family
Malosma laurina (Torr. & Gray) Abrams Laurel-leaf Sumac
Rhus ovata Wats. Sugar Bush
Rhus trilobata Torrey & Gray Skunkbrush
**Schinus molle* L. Peruvian Pepper Tree
Toxicodendron radicans (L.) Kuntze ssp. *diversilobum* (T. & G.) Thorne.

Apiaceae - Carrot Family
Apiastrum angustifolium Nutt.
Daucus pusillus Michx. Rattlesnake Weed
**Foeniculum vulgare* Mill. Fennel
Lomatium lucidum (Nutt.) Coult. & Rose Shiny Lomatium
Sanicula crassicaulis DC. Pacific Sanicle

Apocynaceae - Dogbane Family
**Nerium oleander* L. Oleander

Asclepiadaceae - Milkweed Family
Asclepias fascicularis Dcne. Narrow-leaf Milkweed

APPENDIX 1. FLORAL CHECKLIST OF SPECIES OBSERVED ON THE MERRIAM MOUNTAINS PROPERTY (CONTINUED)

Asteraceae - Sunflower Family L.
Acourtia microcephala DC. Sacapellote, Purpleheads
Ambrosia psilostachya DC. Western Ragweed
**Anthemis cotula* L. Mayweed
Artemisia californica Less. California Sagebrush
Artemisia douglasiana Bess. Mugwort
Baccharis emoryi Gray Emory's Baccharis
Baccharis pilularis ssp. *consanguinea* (DC.)Kuntze Coyote Brush
Baccharis salicifolia (R. & P.) Pers. Mule-fat
Baccharis sarothroides Gray Broom Baccharis
Brickellia californica (Torrey & Gray) Gray California Brickellbush
**Carduus pycnocephalus* L.
**Centaurea melitensis* L. Tocalote
Chaenactis artemisiaefolia (Harv. & Gray) Gray Artemisia Pincushion
Chaenactis glabrisculus DC.
Cirsium occidentale var. *californicum* (A. Gray) Keil & C. Turner
**Cirsium vulgare* (Savi) Ten. Bull Thistle

**Conyza bonariensis* (L.) Cronq. Flax-leaf Fleabane
**Conyza canadensis* (L.) Cronq. Horseweed
Encelia californica Nutt.
Erigeron foliosus Nutt. var. *foliosus* Leafy Daisy
Eriophyllum confertiflorum (DC.) Gray var. *confertiflorum* Golden-yarrow
Filago californica Nutt. California Filago
**Filago gallica* L. Narrow-leaf Filago
**Gazania linearis* (Thunb.)Druce
Gnaphalium bicolor Bioletti Bicolor Cudweed
Gnaphalium californicum DC. California Everlasting
Gnaphalium canescens DC. ssp. *beneolens* (Davids.) Stebb. & Keil Fragrant Everlasting
Gnaphalium canescens DC. ssp. *microcephalum* (Nutt.) Stebb. & Keil White Everlasting
Gnaphalium purpureum L.
Gutierrezia sarothrae (Pursh) Britt. & Rusby Matchweed
Hazardia squarrosa ssp. *grindelioides* (DC.) Clarke Saw-toothed Goldenbush
**Hedypnois cretica* (L.) Willd. Crete Hedypnois
Helianthus gracilentus Gray Slender Sunflower
Hemizonia fasciculata (DC.) Torrey & Gray Fascicled Tarplant
Heterotheca grandiflora Nutt. Telegraph Weed

APPENDIX 1. FLORAL CHECKLIST OF SPECIES OBSERVED ON THE MERRIAM MOUNTAINS PROPERTY (CONTINUED)

Asteraceae (continued)
**Hypochoeris glabra* L. Smooth Cat's-ear
Isocoma menziesii (Hook. & Arn.) Nesom var. *vernonioides* (Nutt.) Nesom Coastal Goldenbush
**Lactuca serriola* L. Wild Lettuce
Lessingia filaginifolia (Hook. & Arn.) M.A. Lane var. *filaginifolia* Cudweed Aster
Madia minima (A.Gray) Keck
Micropus californicus Fisch. & Mey.
Osmadenia tenella Nuitt.
**Picris echioides* L. Bristly Ox-tongue
Porophyllum gracile Benth. Odora
**Silybum marianum* (L.) Gaertn. Milk-thistle
**Sonchus asper* (L.) Hill Prickly Sow Thistle
**Sonchus oleraceus* L. Common Sow Thistle
Stebbinsoseris heterocarpa (Nutt.)Chambers
Stephanomeria virgata Benth. ssp. *virgata* Virgate Wreath-plant
Venegasia carpesioides DC. Jesuit Flower
**Xanthium strumarium* L. Cocklebur

Boraginaceae - Borage Family
Amsinckia menziesii (Lehm.) Nelson & J.F. Macbr. var. *intermedia* (F. & M.)Ganders Rancher's Fireweed
Cryptantha intermedia (Gray) Greene Nievitas Cryptantha
Cryptantha micromeres (Gray) Greene Minute-flower Cryptantha
Cryptantha muricata (Hook & Arn.) Nels. & Macbr. Prickly Cryptantha
Heliotropium curvassavicum L. Salt Heliotrope
Pectocarya linearis ssp. *ferocula* (Jtn.) Thorne Slender Pectocarya
Plagiobothrys collinus (Philbr.) J.M. Johnston var. *californicus* (A. Gray) Higgins California Popcornflower
Plagiobotrys collins var. *fulvescens (*Jtn.) Higgins

Brassicaceae - Mustard Family
Cardamine californica (Torrey & Gray) E.Greene. Milk Maids
Guillenia lasiophylla (Hook. & Arn.) Greene California Mustard
**Hirschfeldia incana* (L.) Lagr.-Fossat Short-pod Mustard
Lepidium nitidum Nutt. var. *nitidum* Shining Peppergrass
**Sisymbrium irio* L. London Rocket

APPENDIX 1. FLORAL CHECKLIST OF SPECIES OBSERVED ON THE MERRIAM MOUNTAINS PROPERTY (CONTINUED)

Caprifoliaceae - Honeysuckle Family
Lonicera subspicata var. *denudata* Rehd. San Diego Honeysuckle
Sambucus mexicana DC. Blue Elderberry

Caryophyllaceae - Pink Family
**Cerastium glomeratum* Thuill. Mouse-ear Chickweed
**Silene gallica* L. Common Catchfly
**Spergula arevnsis* L. Sand Spurrey

Chenopodiaceae - Goosefoot Family
Chenopodium californicum (Wats.) Wats. California Goosefoot
**Salsola tragus* L. Russian-Thistle

Cistaceae - Rock-Rose Family
Helianthemum scoparium Nutt. Peak Rush-rose

Convolvulaceae - Morning-Glory Family
Calystegia macrostegia (Greene) Brumm. ssp. *arida* (Greene) Brumm. Finger-leaf Morning-glory

Crassulaceae - Stonecrop Family
Crassula connata (Ruiz & Pav.) Berger Dwarf Stonecrop
Dudleya pulverulenta (Nutt.) Britt. & Rose Chalk-lettuce

Cucurbitaceae - Gourd Family
Marah macrocarpus (Greene) Greene var. *macrocarpus* Cucamonga Manroot, Wild-Cucumber

Cuscutaceae - Dodder Family
Cuscuta californica Hook & Arn. var. *californica* Witch's Hair

Ericaceae - Heath Family
Arctostaphylos glandulosa Eastw. ssp. *zacaensis* (Eastwood) Wells Eastwood Manzanita
Comarostaphylis diversifolia (Parry) Greene ssp. *diversifolia* Summer Holly
Xylococcus bicolor Nutt. Mission Manzanita

APPENDIX 1. FLORAL CHECKLIST OF SPECIES OBSERVED ON THE MERRIAM MOUNTAINS PROPERTY (CONTINUED)

Euphorbiaceae - Spurge Family
**Chamaesyce maculata* L. Spotted Spurge
Chamaesyce polycarpa (Benth.) Millsp. Small-seed Sandmat
Eremocarpus setigerus (Hook.) Benth. Doveweed
**Ricinus communis* L. Castor-bean

Fabaceae – Legume Family
Lathyrus vestitus Nutt. ssp. *alefeldii* (White) Isely San Diego Sweetpea
Lotus hamatusi E. Greene
Lotus purshianus (Benth.) Clem. & Clem. Spanish-clover
Lotus scoparius (Nutt.) Ottley var. *scoparius* Coastal Deerweed
Lupnus hirsutissimus Benth. Stinging Lupine
Lupinus mocrocarpus Sims
Lupinus truncatus Hook. & Arn.
**Medicago polymorpha* L. California Burclover
**Melilotus indica* (L.) All. Sourclover
Trifolium gracilentum T. & G. Pin-point Clover

Fagaceae - Oak Family
Quercus agrifolia Neé Coast Live Oak
Quercus berberidifolia Liebm. Scrub Oak
Quercus engelmannii Greene Engelmann Oak

Gentianaceae - Gentian Family
Centaurium venustum (Gray) Rob. Canchalagua

Geraniaceae - Geranium Family
**Erocium cicutarium* (L.)L'Her.
**Erodium moschatum* (L.) L'Hér. White-stem Filaree

Grossulariaceae - Currant Family
Ribes indecorum Eastw. White Flowering Currant
Ribes speciosum Pursh Fuchsia-flowered Gooseberry

Hydrophyllaceae - Waterleaf Family
Eriodictyon crassifolium Benth. var. *crassifolium* Thick-leaved Yerba Santa
Eucrypta chrysanthemifolia (Benth.)E.Greene

APPENDIX 1. FLORAL CHECKLIST OF SPECIES OBSERVED ON THE MERRIAM MOUNTAINS PROPERTY (CONTINUED)

Hydrophyllaceae (Continued)
Phacelia cicutaria Greene var. *hispida* Gray Caterpillar Phacelia
Phacelia parryi Torr. Parry's Phacelia
Phacelia ramosissima Lehm. var. *latifolia* (Torrey) Cronq. Caterpillar Phacelia
Phacelia viscida (Benth.) Torrey Phacelia

Lamiaceae - Mint Family
**Marrubium vulgare* L. Horehound
Salvia apiana Jeps. White Sage
Salvia clevelandii (Gray) Greene Fragrant Sage
Salvia columbariae Benth. Chia
Salvia mellifera Greene Black Sage
Stachys ajugoides Benth. var. *rigida* Jeps. & Hoover Hedge Nettle

Malvaceae - Mallow Family
Malacothamnus fasciculatus (Nutt.) Greene Mesa Bush Mallow, Chaparral Mallow
**Malva parviflora* L. Cheeseweed, Little Mallow
Sidalcea malvaeflora (DC.) Benth. ssp. *sparsifolia* C.L. Hitchc. Checker-bloom

Nyctaginaceae - Four-O'Clock Family
Mirabilis californica Gray California Wishbone Plant

Onagraceae - Evening-Primrose Family
Camissiona strigulosa (Fish. & Mey.)Raven
Clarkia epilobioides (Nutt.) Nels. & Macbr. Canyon Godetia
Clarkia purpurea (Curtis) Nelson & Macbr. ssp. *viminea* (Dougl.) Lewis & Lewis Large Clarkia
Epilobium canum (E. Greene) Raven ssp. *latifolium* (Hook.) Raven Broad-leaved California Fuchsia

Oxalidaceae - Wood-Sorrel Family
Oxalis albicans Kunth ssp. *californica* (Abrams) Eiten California Wood-sorrel

Paeoniaceae - Peony Family
Paeonia californica Torrey & Gray California Peony

APPENDIX 1. FLORAL CHECKLIST OF SPECIES OBSERVED ON THE MERRIAM MOUNTAINS PROPERTY (CONTINUED)

Papaveraceae - Poppy Family
Dicentra chrysantha (Hook & Arn.) Walp. Golden Eardrops

Platanaceae - Sycamore Family
Platanus racemosa Nutt. Western Sycamore

Polemoniaceae - Phlox Family
Eriastrum sapphirinum (Eastw.) Mason Sapphire Woolly-star
Navarretia atractyloides (Benth.) Greene Holly-leaf Skunkweed
Navarretia hamata Greene ssp. *hamata* Hooked Skunkweed

Polygonaceae - Buckwheat Family
Chorizanthe fimbriata Nutt. var. *fimbriata*
Chorizanthe fimbriata Nutt. var. *laciniata* (Torrey) Jeps. Laciniate Spineflower
Chorizanthe polygonoides Torr. & Gray
Chorizanthe procumbens Nutt.
Chorizanthe staticoides Benth. Turkish Rugging
Eriogonum fasciculatum Benth. var. *fasciculatum* Flat-top Buckwheat
Eriogonum fasciculatum Benth. var. *foliolosum* (Nutt.) S. Stokes Interior Flat-top Buckwheat
Eriogonum gracile Benth. var. *gracile* Slender Buckwheat
Pterostegia drymarioides Fish. & Mey.
**Rumex crispus* L. Curly Dock

Portulacaceae - Purslane Family
Claytonia perfoliata Donn ssp. *perfoliata* Common Miner's-lettuce

Primulaceae - Primrose Family
**Anagallis arvensis* L. Scarlet Pimpernel

Ranunculaceae - Crowfoot Family
Clematis pauciflora Nutt. Ropevine
Delphinium cardinale Hook. Scarlet Larkspur

Rhamnaceae - Buckthorn Family
Ceanothus tomentosus C. Parry Ramona Ceanothus
Rhamnus crocea Torrey & Gray Spiny Redberry
Rhamnus ilicifolia Kell. Holly-leaf Redberry
Rhamnus pilosa (Trel.) Abrams Hairy-leaf Redberry

APPENDIX 1. FLORAL CHECKLIST OF SPECIES OBSERVED ON THE MERRIAM MOUNTAINS PROPERTY (CONTINUED)

Rosaceae - Rose Family
Adenostoma fasciculatum Hook & Arn. Chamise
Cercocarpus minutiflorus Abrams San Diego Mountain-mahogany
Heteromeles arbutifolia (Ait.) M. Roem. Toyon
Horkelia truncata Rydb. Ramona Horkelia
Prunus ilicifolia (Nutt.) Walp. ssp. *ilicifolia* Holly-leafed Cherry
Rosa californica C. & S. California Rose

Rubiaceae - Madder Family
Galium angustifolium Nutt. ex Torrey & Gray ssp. *angustifolium* Narrow-leaf Bedstraw
Galium nuttallii Gray ssp. *nuttallii* Nuttall's Bedstraw

Rutaceae - Rue Family
Cneoridium dumosum (Nutt.) Hook. F. Bushrue

Salicaceae - Willow Family
Populus fremontii Wats. ssp. *fremontii* Fremont Cottonwood
Salix gooddingii Ball Goodding's Black Willow
Salix lasiolepis Benth. Arroyo Willow

Saxifragaceae – Saxifrage Family
Jepsonia parryi (Torr.)Small

Scrophulariaceae – Figwort Family
Antirrhinum coulterianum DC. White Snapdragon
Antirrhinum kelloggii E. Greene
Antirrhinum nuttallianum DC. ssp. *subsessile* (Gray) Thompson Nuttall's Snapdragon
Cordylanthus rigidus (Benth.) Jeps. ssp. *setigerus* Chuang & Heckard Dark-tip Bird's-beak
Diplacus aurantiacus (Curt.) Jeps. ssp. *australis* (McMinn) R.M. Beeks ex Thorne. S D Monkey Flower
Keckiella antirrhinoides (Benth.) Straw var. *antirrhinoides* Yellow Bush Penstemon
Keckiella cordifolia (Benth.) Straw Climbing Bush Penstemon
Linaria canadensis (L.)Dum.-Cours.
Mimulus cardinalis Benth. Scarlet Monkeyflower
Mimulus guttatus DC. Common Monkeyflower

APPENDIX 1. FLORAL CHECKLIST OF SPECIES OBSERVED ON THE MERRIAM MOUNTAINS PROPERTY (CONTINUED)

Scrophulariaceae (Continued)
Mimulus pilosus (Benth.)Wats Crazy Monkeyflower
Penstemon spectabilis Gray Showy Penstemon
Scrophularia californica Cham. & Schldl. Ssp. *floribunda* (Greene) Shaw California Figwort

Solanaceae – Nightshade Family
Solanum americanum Miller
Datura wrightii Regel Western Jimsonweed
**Nicotiana glauca* Grah. Tree Tobacco
Solanum xanti Gray Chaparral Nightshade

Tamaricaceae - Tamarisk Family
**Tamarix parviflora* DC. European Tamarisk

Urticaceae - Nettle Family
Parietaria hespera B.D. Hinton
**Urtica urens* L. Dwarf Nettle

Vitaceae - Grape Family
Vitis girdiana Munson Desert Wild Grape

MONOCOTYLEDONS
Cyperaceae - Sedge Family
Carex spissa L. H. Bailey San Diego Sedge
Carex triquetra W. Boott Triangular-fruit Sedge

Iridaceae - Iris Family
Sisyrinchium bellum Wats. Blue-eyed-grass

Juncaceae - Rush Family
Juncus bufonius L. Toad Rush
Juncus phaeocephalus Engelm. var. *phaeocephalus* Brown-headed Rush

Liliaceae - Lily Family
Calochortus splendens Benth. Splendid Mariposa
Calochortus weedii Wood var. *weedii* Weed's Mariposa
Chlorogalum pomeridianum (DC.) Kunth Wavy-leaf Soap-plant

APPENDIX 1. FLORAL CHECKLIST OF SPECIES OBSERVED ON THE MERRIAM MOUNTAINS PROPERTY (CONTINUED)

Liliaceae (Continued)
Dichelostemma capitatum Wood ssp. *capitatum* Wild Hyacinth
Hesperoyucca whipplei (Torr.) Baker Our Lord's Candle
Yucca schidigera Ortgies Mojave Yucca
Zigadenus fremontii (Torr.) Wats. Fremont's Camas

Orchidaceae – Orchid Family
Piperia unalascensis (Sprengel) Rydb. Common Rein Orchid

Poaceae – Grass Family
Achnatherum coronatum (Thurber) Barkworth Giant Needlegrass
Agrostis exarata Trin. Spike Redtop
Agrostis pallens Trin. Thin Grass
**Arundo donax* L. Giant Reed
**Avena barbata* Link Slender Wild Oat
**Bromus diandrus* Roth Ripgut Grass
**Bromus hordeaceus* L. Soft Chess
**Bromus madritensis* L. ssp. *rubens* (L.) Husnot Red Brome
**Cortaderia jubata* (Lem.) Stapf Pampas Grass
**Cynodon dactylon* (L.) Pers. Bermuda Grass
**Gastridium ventricosum* (Gouan) Schinz & Thell. Nit Grass
**Hordeum murinum* ssp. *leporinum* (Link) Arcang. Hare Barley
**Lamarckia aurea* (L.) Moench Golden-top
Leymus condensatus (Presl) A. Love Giant Wild Rye
**Lolium perenne* L. Italian Ryegrass
Melica imperfecta Trin. Coast Range Melic
Muhlenbergia rigens (Benth.) Hitchc. Deergrass
Nassella lepida (A.S. Hitchcock) Barkworth Foothill Needlegrass
Nassella pulchra (A.S. Hitchcock) Barkworth Purple Needlegrass
**Pennisetum setaceum* Forsk. Fountain Grass
**Rhynchelytrum repens* (Willd.) Hubb. Natal Grass
**Schismus barbatus* (L.) Thell. Mediterranean Schismus
**Vulpia myuros* (L.) Gmelin var. *hirsuta* (Hacketl) Asch & Graetoner Foxtail Fescue
Vulpia octoflora (Walter)Rydb.

* - Denotes non-native plant taxa

APPENDIX 2

Listing of Animals Observed or Otherwise Detected in the Merriam Mountains Property

APPENDIX 2. ANIMALS OBSERVED OR OTHERWISE DETECTED IN THE MERRIAM MOUNTAINS PROPERTY

Common Name	Scientific Name
BUTTERFLIES	
Hesperiidae (True Skippers)	
Fiery Skipper	*Hylephila phyleus*
Nymphalidae (Brush-footed Butterflies)	
Painted Lady	*Vanessa cardui*
Virginia Lady	*Vanessa viginiensis*
Buckeye	*Junonia coenia*
Papilionidae (Swallowtails and Parnassians)	
Western Tiger Swallowtail	*Papilio rutulus*
Pieridae (Whites, Sulfurs, Marbles, and Orange-tips)	
Common White	*Pontia protodice*
Orange Sulfur	*Colias eurytheme*
Sara Orangetip	*Anthocharis sara*
Cabbage White	*Artogeia rapae*
Riodinidae (Metalmarks)	
Behr's Metalmark	*Apodemia mormo virgulti*
Lycaenidae (Hairstreaks, Coppers, and Blues)	
Marine Blue	*Leptotes marina*
AMPHIBIANS	
Bufonidae (True Toads)	
Western Toad	*Bufo boreas*
REPTILES	
Phrynosomatidae	
Granite Spiny Lizard	*Sceloporus orcutti*
Western Fence Lizard	*Sceloporus occidentalis*
Side-blotched Lizard	*Uta stansburiana*
San Diego Horned Lizard	*Phrynosoma coronatum blainvillei*

APPENDIX 2. LISTING OF ANIMALS OBSERVED OR OTHERWISE DETECTED IN THE MERRIAM MOUNTAINS PROPERTY (CONTINUED)

Common Name	Scientific Name
Teiidae (Whiptails and Relatives)	
Orangethroat Whiptail	*Cnemidophorus hyperythrus*
Coastal Whiptail	*Cnemidophorus tigris multiscutatus*
Anguidae (Alligator Lizards and Relatives)	
Southern Alligator Lizard	*Elgaria multicarinata*
Colubridae (Colubrids)	
Ringneck Snake	*Diadophis punctatus*
Striped Racer	*Masticophis lateralis*
Gopher Snake	*Pituophis catenifer*
Viperidae (Vipers)	
Red Diamond Rattlesnake	*Crotalus ruber*
BIRDS	
Cathartidae (American Vultures)	
Turkey Vulture	*Cathartes aura*
Accipitridae (Hawks, Old World Vultures, and Harriers)	
Red-shouldered Hawk	*Buteo lineatus*
Red-tailed Hawk	*Buteo jamaicensis*
Falconidae (Caracaras and Falcons)	
American Kestrel	*Falco sparverius*
Phasianidae (Quails, Pheasants, and Relatives)	
California Quail	*Callipepla californica*
Columbidae (Pigeons and Doves)	
Mourning Dove	*Zenaida macroura*
Cuculidae (Typical Cuckoos)	
Greater Roadrunner	*Geococcyx californianus*

APPENDIX 2. LISTING OF ANIMALS OBSERVED OR OTHERWISE DETECTED IN THE MERRIAM MOUNTAINS PROPERTY (CONTINUED)

Common Name	Scientific Name
Strigidae (Typical Owls)	
Great Horned Owl	*Bubo virginianus*
*Burrowing Owl	*Athene cunicularia*
Apodidae (Swifts)	
White-throated Swift	*Aeronautes saxatalis*
Trochilidae (Hummingbirds)	
Anna's Hummingbird	*Calypte anna*
Costa's Hummingbird	*Calypte costae*
Picidae (Woodpeckers and Wrynecks)	
Northern Flicker	*Colaptes auratus*
Tyrannidae (Tyrant Flycatchers)	
Black Phoebe	*Sayornis nigricans*
Say's Phoebe	*Sayornis saya*
Cassin's Kingbird	*Tyrannus vociferans*
Western Kingbird	*Tyrannus verticalis*
Corvidae (Jays, Magpies, and Crows)	
Western Scrub-Jay	*Aphelocoma californica*
Common Raven	*Corvus corax*
Aegithalidae (Bushtit)	
Bushtit	*Psaltriparus minimus*
Troglodytidae (Wrens)	
Rock Wren	*Salpinctes obsoletus*
Bewick's Wren	*Thryomanes bewickii*
Muscicapidae (Old World Warblers, Gnatcatchers, Kinglets, Thrushes, Bluebirds, and Wrentit)	
Ruby-crowned Kinglet	*Regulus calendula*
Blue-gray Gnatcatcher	*Polioptila caerulea*
Coastal California Gnatcatcher	*Polioptila californica californica*

APPENDIX 2. LISTING OF ANIMALS OBSERVED OR OTHERWISE DETECTED IN THE MERRIAM MOUNTAINS PROPERTY (CONTINUED)

Common Name	Scientific Name
Timaliidae (Wrentits)	
Wrentit	*Chamaea fasciata*
Mimidae (Mockingbirds and Thrashers)	
Northern Mockingbird	*Mimus polyglottos*
California Thrasher	*Toxostoma redivivum*
Ptilogonatidae (Silky Flycatchers)	
Phainopepla	*Phainopepla nitens*
Emberizidae (Warblers, Sparrows, Blackbirds and Relatives)	
Orange-crowned Warbler	*Vermivora celata*
Yellow-rumped Warbler	*Dendroica coronata*
Townsend's Warbler	*Dendroica townsendi*
Hermit Warbler	*Dendroica occidentalis*
Lazuli Bunting	*Passerina amoena*
Spotted Towhee	*Pipilo maculatus*
California Towhee	*Pipilo crissalis*
Black-chinned Sparrow	*Spizella atrogularis*
Song Sparrow	*Melospiza melodia*
Fringillidae (Finches)	
House Finch	*Carpodacus mexicanus*
Lesser Goldfinch	*Carduelis psaltria*
Cardinalidae (Cardinals, Grosbeaks, Buntings)	
Lazuli Bunting	*Passerina amoena*
Icteridae (Blackbirds, Meadowlarks, Orioles)	
Hooded Oriole	*Icterus cucullatus*
MAMMALS	
Leporidae (Rabbits and Hares)	
Desert Cottontail	*Sylvilagus audubonii*

APPENDIX 2. LISTING OF ANIMALS OBSERVED OR OTHERWISE DETECTED IN THE MERRIAM MOUNTAINS PROPERTY (CONTINUED)

Common Name	Scientific Name
Sciuridae (Squirrels, Chipmunks, and Marmots)	
Merriam's Chipmunk	*Eutamias merriami*
California Ground Squirrel	*Spermophilus beecheyi*
Geomyidae (Pocket Gophers)	
Botta's Pocket Gopher	*Thomomys bottae*
Muridae (Rats, mice, and voles)	
San Diego Desert Woodrat	*Neotoma lepida intermedia*
Dusky-footed Woodrat	*Neotoma fuscipes*
Canidae (Foxes, Wolves, and Relatives)	
Coyote	*Canis latrans*
Procyonidae (Raccoons and Relatives)	
Raccoon	*Procyon lotor*
Mustelidae (Weasels, Badgers, and Relatives)	
Striped Skunk	*Mephitis mephitis*
Felidae (Cats)	
*Mountain Lion	*Felis concolor*
Bobcat	*Felis rufus*
Cervidae (Deer, Elk, and Relatives)	
Mule Deer	*Odocoileus hemionus*

* Note: Reported in a previous study; not observed 1999-2004

** Note: Reported by off-site resident as previously occurring on the site

APPENDIX 3

Draft Coastal Sage Scrub Evaluation Logic Flow Chart

APPENDIX 3. DRAFT COASTAL SAGE SCRUB EVALUATION LOGIC FLOW CHART,

SP 04-006, R04-013, TM 5381, S 04-035, S 04-036, S 04-037,
S 04-038, ER 04-08-028
NATURAL COMMUNITY CONSERVATION PLANNING (NCCP)

DRAFT 4(d) FINDINGS IN SUPPORT OF THE ISSUANCE OF

A HABITAT LOSS PERMIT
November 30, 2006

PROJECT SUMMARY

The purpose of these findings is to establish conformance pursuant to the NCCP 4(d) standards and guidelines and issuance of a Habitat Loss Permit (HLP). The project is a major subdivision and specific plan for 2,327 acres. The applicant has selected the proposed project design as presented in the Final Environmental Impact Report (FEIR) because it consolidates development in the southern part of the ownership and proposes a 1,192 acre managed habitat Biological Open Space in the northern half of the site. The project site is located within the north-central portion of the Merriam Mountains of northern San Diego County. The site is bounded by Interstate 15 (I-15) on the east, Deer Springs Road (S12) on the south, and Twin Oaks Valley Road on the west, with a small portion of the western edge of the site traversed by Twin Oaks Valley Road, and the northeast corner of the site traversed by Lawrence Welk Drive. The project is in the Twin Oaks Valley and Bonsall Community Planning Areas of unincorporated San Diego County (APNs: see attached list).

The project site is generally covered with Granitic Southern Mixed Chaparral (2,156.6 acres or about 92%) and small areas of eighteen other habitats, including 28.6 acres of Diegan Coastal Sage Scrub. The site is surrounded by various land uses, including agricultural, rural residential uses and vacant land.

The preferred Alternative consists of a total of 2,700 homes, roads, utilities, parks, and fuel break areas, along with a 1,192 acre managed habitat Biological Open Space area.

Pacific Southwest Biological Services, with the assistance of Dudek and Associates evaluated the biological resources on the property in a biological technical report dated December 2006. Impacts to vegetation communities resulting from the preferred alternative would total approximately 1186 acres consisting of 1079.2 acres of Granitic Southern Mixed Chaparral, 37 acres of Urban Developed land, 27.3 acres of Diegan Coastal Sage Scrub, 6.2 acres of Intensive

Agriculture, 4.1 acres of Disturbed Habitat, 3.1 acres of Eucalyptus Woodland, 2.0 acres of Orchard, 1.3 acres of Southern Coast Live Oak Riparian Forest, 0.8 acres of Non-vegetated Channel, 0.3 acre of Southern Willow Scrub/Mule-fat Scrub, 0.3 acre of Southern Willow Scrub, and 0.2 acre of Mule-fat Scrub.

Sensitive plant species detected on site include Summer-Holly (*Comarostaphylos diversifolia* ssp. *diversifolia*), Ramona Horkelia (*Horkelia truncata*) and Engelmann Oak (*Quercus engelmannii*). Sensitive animal species observed or detected on the site include Northern Red-diamond Rattlesnake (*Crotalus ruber ruber*), San Diego Horned Lizard (Phrynosoma coronatum blainvillei), Belding's Orange-throated Whiptail (*Aspidoscelis hyperythrus beldingi*), Cooper's Hawk (*Accipiter cooperi*), a single pair of Coastal California Gnatcatchers (*Polioptila californica californica*) and San Diego Desert Woodrat (*Neotoma lepida intermedia*). Historical records or incompletely documented reports indicate that Burrowing Owl (*Athene cunicularia*), Mule Deer (*Odocoileus hemionus*) and Mountain Lion (*Felis* (*Puma*) *concolor*) have occurred on the site, although neither of these two species appears to utilize the site presently.

Approximately 2.0 acres of Army Corps of Engineers jurisdiction and California Department of Fish and Game jurisdiction would be impacted by the project. Significant direct and/or indirect impacts to the Coastal California Gnatcatcher would occur. In addition, there is a significant indirect impact on raptor foraging because 20.7 acres of non-native grassland will be impacted.

The preferred alternative would avoid impacts to a total of 1,192 acres on- site, which includes 1091.6 acres of Southern Mixed Chaparral, 57.4 acres of Mafic Southern Mixed Chaparral, 25.2 acres of Disturbed Habitat, 5.5 acres of Diegan Coastal Sage Scrub, 3.7 acres of Non-native Scrub, 2.3 acres of Southern Willow Scrub, 1.9 acres of Coast Live Oak Woodland, 1.6 acres of Sycamore Alluvial Woodland, 1.1 acres of Southern Coast Live Oak Riparian Forest, 1 acre of Orchard, 0.6 acre of Southern Willow Scrub/Tamarisk Scrub, and 0.1 acre of Freshwater Marsh.

Of the 1,192 acres placed within an open space easement, all would be used as mitigation for project impacts and as a hard-line MSCP preserve area. This dedicated open space is found primarily along the eastern boundary and northern one-half of the site.

The project was discussed at the Agency Batching Meeting and the Wildlife Agencies and DPLU met on the site several times to discuss the project and draft North County Multiple Species Conservation Program (NSMSCP) issues in 2004 and 2005. The preferred alternative (all-south development) was proposed after these discussions. The site is within a block of moderate to high value habitat on the Habitat Evaluation Map for the NCMSCP.

In addition to dedication and designation of open space, biological mitigation includes dedication of a 100 foot wide limited building zone easement placed adjacent to open space and project boundaries, temporary and permanent fencing, open space signs to be located on the open space boundary facing the proposed development, construction limitations during avian breeding seasons, construction monitoring for impacts wetland areas, and development and implementation of a habitat management plan for stewardship and monitoring of biological resources preserved in dedicated open space easements.

DRAFT 4(D) FINDINGS

Introductory Statement: The following findings are made based upon all of the documents contained in the record for this project (the Merriam Mountains Environmental Impact Report (EIR) and Biological Technical Appendix) and pursuant to Section 86.104 of County of San Diego Ordinance No. 8365 and Section 4.2.g of the Southern California Coastal Sage Scrub NCCP Process Guidelines (California Fish and Game Department [CDFG]; November 1993).

Finding 1.a: The habitat loss does not exceed the five percent guideline.

The preferred alternative will impact 27.3 acres of Diegan Coastal Sage Scrub and one pair of California gnatcatchers Approved coastal sage scrub (CSS) habitat losses as of December 2006 and including this approval, for the entire unincorporated County are presented below:

Unincorporated Area CSS Cumulative Losses

Total loss allowed under five percent guideline:	2953.3 acres
Cumulative loss of CSS to date:	999.05 acres
Net loss due to this project:	27.5 acres
Total cumulative loss:	1026.55 acres
Remaining loss under five percent guideline:	1926.75 acres

The habitat loss of the proposed development would not exceed the five percent guideline.

Finding 1.b: The habitat loss will not preclude connectivity between areas of high habitat values.
The project site currently supports a total of 28.6 acres of Diegan Coastal Sage Scrub on site, plus 3.0 acres that would be impacted by off site improvements, which occur in a few patches. Based on the NCCP Flow Chart, the CSS habitat on the site has "intermediate value" for long-term conservation. Coastal sage scrub along the Interstate 15 corridor, in the north San Diego County coastal foothills, typically occurs on exposures of specific soil types and semi-disturbed areas in relatively small patches. Other patches of Diegan Coastal Sage Scrub occur north and south of the project site along the I-15 corridor.

The preferred alternative impacts 27.3 acres of Diegan Coastal Sage Scrub, which occurs in five patches on the site in widely-spaced areas. The small patches of Diegan Coastal Sage Scrub that will be impacted have been identified as intermediate quality, although occupied by one pair of Coastal California Gnatcatchers.

Based on the design of the project, which proposes a large open space habitat preserve in the majority of the northern half of the site, the habitat loss of three patches of relatively isolated Diegan Coastal Sage Scrub would not preclude connectivity between areas of high habitat value. Additionally, the project proposes to preserve and maintain an off site area of Coastal Sage Scrub, occupied by California Gnatcatchers, which would provide for the long-term conservation of gnatcatcher habitat along the I-15 corridor in north San Diego County.

Finding 1.c: The habitat loss will not preclude or prevent the preparation of the subregional NCCP.

The site is in the main portion of a block of generally low habitat value with areas of moderate value (as indicated in the Habitat Evaluation Map for the draft NCMSCP) to the north and south in the Merriam Mountain chain, surrounded by agricultural land to the north, west and south. Additionally, an area of High value habitat identified an unused historic raptor nest on the Habitat Evaluation Map for the draft NCMSCP. The preferred alternative clusters development in the southern half of the site, while preserving the majority of the northern half of the site in a managed habitat preserve. A small cluster of estate homes is proposed for the extreme north-east corner of the site. The all-south development (proposed) alternative was conceptually agreed upon by the wildlife agencies as a hard-line preserve proposed for the North County MSCP. The preferred alternative proposes a 1,192 acre habitat preserve that would connect by a broad band of ownership (more than one-half mile) across Twin Oaks Valley Road to the San Marcos Mountains with very high and high-value habitats on the Habitat Evaluation Map of the draft NCMSCP. Additionally, the project maintains about 80% of its existing frontage along the I-15 corridor.

Finding 1.d: The habitat loss has been minimized and mitigated to the maximum extent practicable in accordance with Section 4.3 of the NCCP Process Guidelines. :

The proposed development and associated infrastructure impacts has been revised to minimize biological impacts by clustering the development, modifying the road alignments and pulling development back from the majority of the northern half of the site. This impact has been mitigated to less than significant levels by the preservation of on-site resources at the following ratios: 2:1 for Diegan Coastal Sage Scrub, 0.5:1 for Granitic Southern Mixed Chaparral, 1:1 for Non-native Grassland, Southern Willow Scrub/Mule-fat Scrub, Mule-fat Scrub, Southern Willow Scrub, and Coast Live Oak Woodland. All mitigation lands are to be placed in dedicated open

space easements. The designated open space restricts development in adjacent habitat that is critical to the implementation of the draft NCMSCP and for survival of sensitive species. The entire on-site preserved habitat is within an area that has long-term conservation potential, expected long term viability and connectivity along the Interstate 15 corridor and the San Marcos Mountains.

In addition to dedication and designation of open space, the HLP would require that the following activities occur prior to removal of habitat:

- The Department of Fish and Game will be offered beneficiary status /for dedicated open space easements,
- A 100 foot wide limited building zone easement will be placed adjacent to open space and project boundaries,
- Temporary and permanent fencing with open space signs will be located on the open space boundary facing all proposed development and along trails,
- Brushing, clearing, and/or grading will be restricted within 300 feet of natural habitat types during the breeding of the gnatcatcher and other migratory birds, such that no impacts to nesting migratory birds will occur.
- Specific sediment control measures and monitoring will be required for construction in stream bed watersheds, and
- Implementation of a Resource Management Plan, approved by the Director of Planning and Land Use and the Wildlife Agencies, for the preservation and management of the on-site open space easements. The plan will include stewardship of the land, monitoring of biological resources, a Property Analysis Record (PAR) or equivalent cost projection to ensure a sufficient endowment, and designation of a conservancy or agency to management the land in perpetuity.

Finding 2: The habitat loss will not appreciably reduce the likelihood of survival and recovery of listed species in the wild:

The loss of 27.3 acres both onsite and offsite of Diegan Coastal Sage Scrub, some of which is occupied by a single pair of California Gnatcatchers, will not appreciably reduce the likelihood of survival and recovery of the California Gnatcatcher because the project compensates for this loss of occupied habitat by purchasing and maintaining the Captain's Associates property in the I-15 corridor, which is occupied by the Gnatcatcher. Additionally, other areas adjacent to the project site, within the I-15 right of way and historically occupied by Gnatcatchers, would be buffered from any project effects an would continue to support the species.
As a precaution, no clearing or grading of scrub habitats will be permitted during the breeding season of the California Gnatcatcher, unless pre-construction breeding surveys are done that show gnatcatchers would not be harmed.

Approximately 2.0 acres of Army Corps of Engineers jurisdiction and California Department of Fish and Game jurisdiction would be impacted by the project.

The site also supports several low sensitivity plants and animals, including Summer-Holly, Ramona Horkelia and Engelmann Oak and Northern Red-diamond Rattlesnake, San Diego Horned Lizard, Belding's Orange-throated Whiptail, Cooper's Hawk, and San Diego Desert Woodrat. After project implementation, populations of these species would be reduced commensurate with the loss of habitat. However, these species are relatively widespread in southern California, and particularly in the northern foothills of San Diego County and their regional populations would not be imperiled by implementation of the project. Long-term impacts to these species would be further reduced by the preservation and management of the 1,192 acre on site preserve, enhancement of existing habitats, management of other open space lands on the site, and the requirement to purchase and preserve off-site habitats which would compensate for direct impacts to some habitats.

In summary, although direct impacts would occur to Diegan Coastal Sage Scrub, this impact would be compensated for by purchase and maintenance of sage scrub habitat occupied by California Gnatcatchers in the I-15 corridor, ensuring that the species can persist in the corridor. Conformance to the federal Endangered Species Act is expected to occur through the application for and approval of a Habitat Loss Permit for the habitat take. Impacts to Southern Mixed Chaparral would be mitigated by an equal or greater preservation of this habitat onsite in a well-configured managed habitat preserve in the northern half of the project site; this preserve maintains existing habitat linkages with the I-15 frontage, open areas to the north, and to the San Marcos Mountains to the west.

For all the above species, indirect impacts will also be mitigated by implementation of a Resource Management Plan and construction limitations, including breeding season avoidance, fencing, and monitoring.

Finding 3: The habitat loss is incidental to otherwise lawful activities:

Habitat removal will require additional discretionary approvals by the County and Wildlife Agencies. Habitat removal may not commence until:

- All appropriate grading permits, improvement plans, and/or clearing permits have been issued.
- Project conformance with the County of San Diego's Habitat Loss Permit Ordinance 8365, including issuance of a Habitat Loss Permit by the County of San Diego and concurrence by the Department of Fish and Game and U.S. Fish and Wildlife Service
- Take authorization under the federal and state Endangered Species Acts has been granted.

For the proposed development, no removal of habitat would occur prior to the approval and issuance of all necessary permits, therefore the habitat loss is incidental to otherwise lawful activities. However there was a County citation on Lot E for clearing vegetation in excess of that necessary for geotechnical exploration, surveying, and access for percolation tests and wells. The violation has been remedied at this time.

NCCP FLOWCHART

1. Is natural vegetation present? Yes.
2. Is Coastal sage scrub present? Yes
3. Is Coastal sage scrub the most dense in the subregion? No.
4. Is the land close to high value district? No.
5. Is the land located in a corridor between higher value districts? Yes.
6. Does the land support high density of target species? No.

Based on the NCCP Logic Flow Chart, the quality of habitat supported on the Merriam Mountain is defined as "Intermediate Potential Value for Long-Term Conservation."

CONCLUSION

The above Draft 4(d) Findings indicate that issuance of a Habitat Loss Permit is appropriate for the proposed development.

Prepared by: Maggie Loy, Biologist, Department of Planning and Land Use, County of San Diego, with the assistance of Michael Evans, Pacific Southwest Biological Services, Inc.

APPENDIX 4

Merriam Preserve Design Consistency

Appendix 4. Merriam Preserve Design Consistency

MERRIAM PRESERVE DESIGN

The Merriam project proposes a single 1,192-acre Biological Preserve that would be integrated into North County Multiple Species Conservation Program (NCMSCP) subarea plan, presently under preparation. The unadopted MSCP regional habitat evaluation model (HEM) show the Merriam site as having a moderate HEM score, with smaller patches of High HEM score in the northern, central and southern parts of the Merriam site, with smaller patches of very high HEM score, associated with patches of Coastal Sage Scrub vegetation (including most of the connection into the San Marcos Mountains) and presumably a historic raptor nest in the east-central portion of the site. The HEM map for the area outside the Merriam ownership shows the surrounding Intensive Agriculture or Urban areas surrounding the site except for the majority of the San Marcos Mountains, which was given a very high HEM score.

The proposed preserve design was based on often competing ideas between good residential subdivision design and engineering and the most beneficial aspects of a successful Biological Preserve design

Specific Preserve Design Criteria Consistency

The following preserve design elements have been evaluated, based on the proposed preserve area and project design.

1. No net loss of wetlands

Not Consistent: The project would affect 2.1 acres of RPO wetlands onsite and 0.9 acres offsite along Deer Springs Road that would be mitigated by habitat creation enhancement both onsite and offsite at a 3:1 ratio within the Merriam Biological Preserve and an offsite parcel complete avoidance of wetlands is not incorporated in the project design due to the goal of consolidating development in the southern portion of the site to provide for a preserve design in northern portion of the site consistent with the goals of the County's draft North County MSCP

2. Include measures to maximize the habitat structural diversity of conserved habitat areas, including conservation of unique habitats and habitat features (e.g., soil types, rock outcrops, drainages, host plants).

Substantially Consistent: Within its 1,192 acres of preserved habitat, the project includes major rock outcrops (particularly those in the north-east spine of the site), the

majority of existing drainages and riparian forest habitats (notably the major riparian habitats along the east and west side of the Merriam Mountains); it preserves a wide range of soil types and slope exposures and vegetation types. Some soil types uncommon on the site, but not in the subregion, such as alluvial soils in the southern central valley would be developed. Additionally, the proposed project preserves patches of Spiny Redberry, potential host plant for Hermes Copper and San Diego Sedge for Harbison's Dun Skipper (although neither species was found using these host plants on the site during directed surveys).

3. Provide for spatially representative examples of extensive patches of coastal sage scrub ("CSS") and other habitat types ranked as having high and very high biological value by the draft North County MSCP habitat evaluation model.

Substantially Consistent, with off-site mitigation: The site does not contain extensive patches of coastal sage scrub (CSS) but only includes relatively small, isolated patches of (27.3 acres or 1.2 % of the site), scattered over 4-5 patches. Only one of these patches was indicated as having Very High Scores on the HEM Final 2002 model results: the north end of Mesa Rock Road. The site's south-central valley Non-native Grassland was also ranked very high by the HEM results. Both these areas are proposed for residential or commercial uses by the proposed project. The 2002 HEM results also show three patches of High HEM score, in the southeast, central and northerly portions of the site and some of the eastern canyons. Based on the field examination of these non-drainage areas, no special biological features were identified that would result in high HEM scores. Although some of these areas exhibit extensive rock outcrops, which sometimes may result in higher habitat diversity, no otherwise unique habitat features were identified in the field. Note that the HEM scores used existing databases and remote sensing (aerial photographs) and did not have direct access to the site.

In conclusion, although the site contains CSS with Very High HEM scores, these patches are certainly not extensive; the proposed Preserve does include extensive areas of both High HEM and Moderate HEM score lands within its 1192 acres of MHP. Thus, the project is consistent with this criterion, with adequate off-site mitigation to compensate for the loss of Diegan Coastal Scrub habitat.

4. Create significant blocks of habitat to reduce edge effects and maximize the ratio of surface area to perimeter of conserved habitats. Subsequently, using the criteria set out in Chapter 6, 6.2.3 of the MSCP Plan, potential impacts from new development on biological resources within the preserve that should be considered in the design of any project include access, nonnative predators, nonnative species, illumination, drain water (point source), urban runoff (non-point source), and noise. County staff

shall determine specific measures necessary to contain impacts from a new development project, and thereby avoid, reduce or mitigate edge effects on the preserve to less than significant levels.

Consistent: The project site is very large and somewhat irregularly shaped; it is about 3.22 mi long in its longest north-south alignment and about 2.16 miles wide in its widest east-west alignment. The southern- and northern-most east-west dimensions are as narrow as about 0.27 mile wide (not counting the narrow south entrance road area).

Because of physical development constraints and the desire to create a large block of preserved habitat in the northern portion of the site, the site development plan concentrates on the southern ridges and relatively shallow valleys (while leaving a series of eastern ridgelines, peaks, and the majority of the east-facing slopes in the HMP). The HMP includes 1,192 acres of preserved land including the northern half of the ownership and a broad band of habitat adjacent to and west of I-15.

5. Provide incentives for development in the least sensitive habitat areas.

Does not apply: This criterion does specifically not apply (no incentives are involved) but the project does concentrate development in the most prevalent vegetation type on the site; it avoids the wetlands and major riparian habitats on site but would largely impact Diegan Coastal Sage Scrub and Non-native Grasslands on the site.

6. Minimize impacts to narrow endemic species and avoid impacts to core populations of narrow endemic species.

Consistent: The Merriam site does not contain any Narrow Endemic plant species.

7. Preserve the biological integrity of linkages between Biological Resource Core Areas.

Consistent: The project is consistent with this criterion because the proposed HMP includes nearly the entire length of frontage with I-15 (except for the immediately north of Mesa Rock Road. Additionally, the project HMP includes a critical linkage across Twin Oak Valley Road, into the proposed PAMA in the San Marcos Mountains, as well as all the San Marcos Mountains Merriam ownership area. More than 80% of the entire western border of the project site (including the northern one-half) are Biological Preserve, except for two access roads required for fire ingress/egress. These proposed preserve areas would potentially connect with other PAMAs proposed in the draft NCMSCP (not yet adopted).

8. Achieve the conservation for covered sensitive species and habitats.

Consistent, with off-site mitigation: The Merriam site does not include any species proposed as Covered Species of plants in the draft North County MSCP. Among proposed Covered Species of animals, the Merriam site includes the San Diego Horned Lizard, Belding's Orange-throated Whiptail, and the Coastal California Gnatcatcher. Specific conservation goals for these species have not been released for the North County plan. However, much of the open area of the 1,192-acre MHP for Merriam includes appropriate habitat for the Horned Lizard and Whiptail and would meet the probable conservation goals for these species because of the 1,192-acre Biological Preserve proposed as part of the project design. The preservation of the majority of the northern half of the site in the preserve would assist in the conservation of these species because secondary impacts resulting from adjacent developed would be substantially reduced with the present design. Reduction in uncontrolled trespass and control of disturbance by use of designated trails should reduce direct impacts to these lizard species.

Although implementation of the project would result in the loss of one California Gnatcatcher territory, the proposed mitigation for this loss would contribute to conservation of this species along the I-15 corridor by purchasing and managing habitat for the species in the corridor. This would result in at least one additional loci of Gnatcatchers permanently preserved in the corridor. The MHP Resource/Habitat Management Plan addresses continued conservation of these species. Although the project proposes impacting the single territory of Gnatcatchers, the project proposes to acquire and manage habitat for two Gnatcatchers within the local I-15 corridor area to still achieve the anticipated conservation goals for the species.

Consistency with Design Criteria for Linkages and Corridors

9. Habitat linkages defined by the BMO will be maintained. The BMO defines a habitat linkage as follows: ***Linkage*** *shall mean an area of land which supports or contributes to the long-term movement of wildlife and genetic material.*

Consistent: The Merriam site is consistent with this criterion in that it proposes to maintain, preserve and manage the northern half of the ownership as one contiguous expanse of habitat that maintains habitat linkages to the largely undeveloped San Marcos Mountains to the west. The Merriam plan also includes most of its frontage along I-15 within the MHP. Although I-15 acts as a substantial barrier to terrestrial wildlife and therefore genetic material, undoubtedly some wildlife interchange does occur across the I-15 barrier, either at night or through freeway crossings.

10. Existing movement corridors within linkages will be identified and maintained.

Consistent: The Merriam project meets this criterion (see discussion under 1. above). The preliminary wildlife movement survey on the site indicated that animal tracts were more common on the northern portion of the site, perhaps because of the preponderance of trails and reduced adjacent residential and agricultural uses. Obviously, some species, such as raccoons and foxes which tend to survive well at wildland-urban habitat interfaces, might be using such areas in the southern portion of the site. The northern portions of the site are also directly open to wild or semi-wild areas to the north and west of the site (such as the San Marcos Mountains), probably allowing more likely use for linkages to these areas.

Existing potential wildlife movement pinch-points (restrictions) from the project site south and southwest will remain and be exacerbated because of the project's concentrating development in the southern portion of the site and the increase in vehicular traffic along Deer Springs Road. However, potential wildlife movement is already substantially restricted along the southern border of the Merriam ownership by the following: 1) Deer Springs Road intersection with I-15; 2) an existing mobile home park; 3) steep slopes north and south of Deer Springs Road; 4) intervening residential and agricultural development along both sides of Deer Springs Road; and 5) substantial open areas developed for mixed agricultural and residential development to the southwest.

11. Corridors with good vegetative and/or topographic cover will be protected.

Consistent: The Merriam project generally retains existing vegetative and/or topographic cover along the eastern project boundary (along I-15) and throughout the northern Biological Preserve area. The best habitats in the eastern riparian drainage (containing extensive sycamore alluvial woodland, including most of the upper parts of the canyon, except for its very highest elevation areas. The majority of the other drainages on the north- and north-western portions of the site are preserved as well, including the alignment of the old quarry road leading to Twin Oaks Valley Road and the San Marcos Mountains.

12. Regional linkages that accommodate travel for a wide range of wildlife species, especially those linkages that support resident populations of wildlife, will be selected.

Consistent: The regional linkages selected for the Merriam project to the west, north and east conform to this criterion because they would accommodate continued movement of resident wildlife population movements. The proposed project design maintains

existing regional linkages to the San Marcos Mountains to the west (by far, the most important regional linkage). The design also maintains existing linkages to the northwest and north, although these linkages are more tenuous than the western linkage. Some staff from the wildlife agencies have argued that I-15 is not an impenetrable barrier to medium-sized wildlife, but may allow a filtered, but functional interchange across the freeway, particularly in the late evening and early morning hours. If the latter is correct, the proposed project design still maintains 70%+ of its eastern boundary along I-15 in permanent, managed Biological Open Space to facilitate such potential movement.

13. The width of a linkage will be based on the biological information for the target species, the quality of habitat within and adjacent to the corridor, topography, and adjacent land uses. Where there is limited topographic relief, the corridor must be well vegetated and adequately buffered from adjacent development.

Consistent: While it appears that the Merriam site is not currently occupied by large mammalian species such as Mountain Lion or Mule Deer (although they may still occasionally occur on the site) and the qualitative tracking study revealed the presence of medium to small mammals, including Bobcat, Coyote, Striped Skunks and rodents. These medium to small mammals, along with herptiles are the target species for the functional interior MHP and linkages to the north and west of the project. The primary functional linkages proposed by the Merriam project to maintain are to adjacent chaparral areas to the north and west, across Twin Oaks Valley Road to the west to the San Marcos Mountains. The linkage areas within and outside of the Merriam site would be maintained approximately as they are present to the north, northwest, and west. If the all-south development alternative is approved, and the northern half of the project site would be a Biological Preserve, larger species such as Mountain Lion and Mule Deer would have a chance to use the site again and take advantage of the potential east-west linkages, as well as utilize access to open areas to the north of the site.

14. If a corridor is relatively long, it must be wide enough for animals to hide in during the day. Generally, wide linkages are better than narrow ones. If narrow corridors are unavoidable, they should be relatively short. If the minimum width of a corridor is 400 feet, it should be no longer than 500 feet. A width of greater than 1,000 feet is recommended for large mammals and birds. Corridors for bobcats, deer, and other large animals should reach rim-to-rim along drainages, especially if the topography is steep.

Consistent: The Merriam site does not contain distinct major internal corridors for the movement of terrestrial wildlife, instead in contains a network of existing dirt roads and trails, fairly steep and densely vegetated canyon and disturbed open areas that allow

terrestrial wildlife movement. Access to and through the site is limited on all sides by steep slopes and dense chaparral vegetation, as well as hostile or poor wildlife habitats on the east, south and north sides of the site. The site does contain high-value wildlife habitats with riparian habitats and substantial cover in the riparian canyon on the east and along the existing road from the site to the abandoned quarry on the west side. This latter road links the site to extensive open habitats in the San Marcos Mountains. This corridor/linkage is designed to allow continued movement of identified species that include medium-sized mammals such as Coyotes and Bobcats (probably using existing dirt roads and more open canyons), but not the larger mammals such as Mule Deer and Mountain Lions that apparently do not regularly use the Merriam Mountains area within the project boundaries. The Merriam project includes linkages to the San Marcos Mountains and the existing road leading from the upper portions of the site near the abandoned quarry would be abandoned. However, the proposed North Tank Road, which would be placed near the top of the major east-draining canyon would create a barrier to wildlife moving from east to west through the site, without special design considerations. Thus, the design is not fully consistent with this provision.

15. Visual continuity (i.e., long lines-of-sight) will be provided within movement corridors. This makes it more likely that the animals will keep moving through it. Developments along the rim of a canyon used as a corridor should be set back from the canyon rim and screened to minimize their visual impact.

Substantially Consistent: The areas that would function as corridors from the Merriam site are the above-referenced north and west areas. These areas would retain their existing visual continuity along existing dirt roads and along canyon bottoms and ridgelines. North Tank Road, the access road between the south-development areas of the project site to Lawrence Welk Drive would traverse at the top of a major canyon on the northeast side of the site. Although this canyon would normally be considered a major potential corridor area, the dense chaparral vegetation along the upper canyon bottom showed no obvious wildlife trails. It is likely that wildlife using this canyon use minor trails along the canyon slopes for movement up and down the canyon. Areas in the southern portion of the site, proposed for the bulk of the development, would loose the majority of the existing movement corridors along existing dirt roads as shown in the development bubble area (Figure 9). Recall that, these southern areas are closer to existing rural development areas and groves, and probably have reduced external connectivity and greater edge effects at present. Thus, the corridors proposed by the project design would be substantially consistent with this criterion.

16. Corridors with low levels of human disturbance, especially at night, will be selected. This includes maintaining low noise levels and limiting artificial lighting.

Consistent, with mitigation measures: The proposed corridor to the northwest would retain its existing characteristics; the San Marcos Mountains corridor would be impacted by existing and proposed traffic along Twin Oaks Valley Road. Standard measures will be implemented to reduce and control noise and artificial lighting along the project boundaries and particularly along proposed Biological Open Space boundaries. Fencing along specific development area boundaries should be proposed where appropriate to limit access of unsupervised children and pets into the Biological Open Space. However, note that selected existing dirt roads are planned to be used as recreational trails, so these areas should not necessarily be fenced off.

17. Barriers, such as roads, will be minimized. Roads that cross corridors should have 10-foot high fencing that channels wildlife to underpasses located away from interchanges. The length-do-width ratio for wildlife underpasses is less than 2, although this restriction can be relaxed for underpasses with a height of greater than 30 feet.

Consistent: The major east-west corridors to external areas include the existing frontage with I-15 on the east (not substantially changed by the project) and the linkage across Twin Oaks Valley Road to the west. The western linkage is substantially maintained, although a project access road is required, taking less than 200 ft of the 2,400-foot frontage. The majority of the lands south of the project site are substantially developed with agriculture and large low residential uses. The off-site lands to the north include scattered residential uses and undeveloped areas; the project design substantially maintains the connection to the north.

18. Where possible at wildlife crossings, road bridges for the vehicular traffic rather than tunnels for wildlife use will be employed. Box culverts will only be used when they can achieve the wildlife crossing/movement goals for a specific location. Crossings will be designed as follows: sound insulation materials will be provided; the substrate will be left in a natural condition, and vegetated with native vegetation if possible; the line-of-sight to the other end will be provided; and, if necessary, low-level illumination will be installed in the tunnel.

Partially Consistent: At present, no major artificial wildlife crossings are anticipated. By choosing the all south development alternative, the majority of the existing wildlife trails/potential movement corridors to and from the east, north and west have been preserved. The most important of these is probably the existing dirt road from the upper

portions of the site to Twin Oaks Valley Road, connecting to the San Marcos Mountains to the west. North Tank Road, the only road between the south and north halves of the site, has the potential to impact wildlife crossings. The following road segments in the south part of the site have the potential to limit wildlife movement between proposed open areas: 1) Merriam Mountains Parkway, between southerly-most development area and the development area directly north of this; Meadow Park Lane, south of its intersection with Merriam Mountains Parkway; and Merriam Mountains Parkway, west of Meadow Park Lane. The present design does not propose any special designs to these road links to facilitate wildlife movement between biological and other open space areas used by wildlife.

19. If continuous corridors do not exist, archipelago (or stepping-stone) corridors may be used for short distances. For example, the gnatcatcher may use disjunct patches of sage scrub for dispersal if the distance is less than 1-2 miles.

Consistency: Consistent with off-site mitigation for Gnatcatcher impacts. Gnatcatchers have been recorded along the CalTrans right of way, adjacent to the project, as well to the north and south, principally east of the north-bound lanes of I-15, well within the typical juvenile dispersal limits of 6 miles as reported in the literature.

APPENDIX 5

Sensitive Plants Reported from Bonsall, Pala, San Marcos, and Valley Center USGS 7.5' Quads in CNDDB or County Sensitive Species

Appendix 5. Sensitive Plants Reported from Bonsall, Pala, San Marcos and Valley Center USGS 7.5' Quads in CNDDB and MSCP/County Sensitive Species

SPECIES NAME	STATUS Federal/State/CNPS	SAN DIEGO COUNTY STATUS	HABITAT REQUIREMENTS	PROBABILITY OF OCCURRENCE
Astragalus brauntonii Braunton's Milk-vetch	FE/None/1B(3-3-3)		Closed-cone coniferous forest, chaparral, coastal scrub, valley & foothill grassland, esp. recent burns or disturbed areas, in stiff gravelly clay soils overlying granite or limestone, 4-640 m.	No appropriate habitat on-site: Low
Acanthomintha ilicifolia San Diego Thorn-mint	FT/CE/1B (2-3-2)	County Sensitive Species	Chaparral, coastal scrub, valley & foothill grassland, vernal pools, endemic to active verticol clay soils of mesas & valleys, usu on clay lenses 2/in grassland or chaparral communities, 10-935 m.	Clay soils (Las Posas) on site limited to preserve area west of Twin Oaks Valley Road; not observed during numerous visits
Adophia californica California Adolphia	None/None/2 (1-3-1)	Group B	Chaparral, coastal sage scrub, valley & foothill grassland, from sandy/gravelly to clay soils within grassland, coastal sage scrub, or chaparral; various exposures, 15-300 m.	Clay soils (Las Posas) on site limited to preserve area west of Twin Oaks Valley Road; not observed during numerous visits
Ambrosia pumila San Diego Ambrosia	FE/None/1B (3-3-2)	County Sensitive Species	Chaparral, coastal scrub, valley & foothill grassland, vernal pools, esp in sandy loam or clay soil, in valleys; persists where disturbance has been superficial, 20-415 m.	Clay soils (Las Posas) on site limited to preserve area west of Twin Oaks Valley Road; not observed during numerous visits
Arctostaphylos glandulosa ssp *crassifolia* Del Mar Manzanita	FE/None/1B (3-3-2)	County Sensitive Species	Chaparral, closed-cone coniferous forest, esp sandy coastal mesas & ocean bluffs, in chaparral or Torrey Pine forest.	The more common, inland species (*A. g. zacaensis*) is found on site

Appendix 5. Sensitive Plants Reported from Bonsall, Pala, San Marcos and Valley Center USGS 7.5' Quads in CNDDB and MSCP/County Sensitive Species

SPECIES NAME	STATUS Federal/State/CNPS	SAN DIEGO COUNTY STATUS	HABITAT REQUIREMENTS	PROBABILITY OF OCCURRENCE
Arctostaphylos rainbowensis Rainbow Manzanita	None/None/1B (3-3-3)	Group A	Chaparral; prev. called *A. peninsularis* or considered a hybrid between *A. glandulosa* & *A. glauca*; esp usu found in gabbro chaparral in RIV & SD Cos., 270-790 m.	The more common, inland species (A. g. zacaensis) is found on site
Baccharis vanessae Encinitas Baccharis	FT/SE/1B (2-3-3)	County Sensitive Species	Chaparral, endemic to San Diego County, esp on sandstone soils in steep, open, rocky areas w/chaparral associates, 60-720 m.	Not known from granodiorite habitats on site
Brodiaea filifolia Thread-leaved Brodiaea	FT/CE/1B (3-3-30	County Sensitive Species	Cismontane woodland, coastal scrub, playas, valley & foothill grassland, vernal pools, usu associated w/annual grassland & vernal pools, often surr by shrubland habitats, clay soils, 35-855 m.	Clay soils (Las Posas) on site limited to preserve area west of Twin Oaks Valley Road, vernal pools, or seep-related habitats to support this species; not observed
Brodiaea orcuttii Orcutt's Brodiaea	FSC/None/1B (1-3-2)	County Sensitive Species	Vernal pools, valley & foothill grassland, closed-cone coniferous forest, cismontane woodland, chaparral, meadows, esp mesic, clay habitats, sometimes serpentine, in vernal pools & small drainages, 30-1615 m.	Clay soils (Las Posas) on site limited to preserve area west of Twin Oaks Valley Road, vernal pools, or seep-related habitats to support this species; not observed
Ceanothus verrucosus Wart-stemmed Ceanothus	FSC/None/2 (2-2-1)	County Sensitive Species	Chaparral, 1-380 m.	Known from mountains south of San Marcos, but not found on site; only *C. tomentosus* found on site

Appendix 5. Sensitive Plants Reported from Bonsall, Pala, San Marcos and Valley Center USGS 7.5' Quads in CNDDB and MSCP/County Sensitive Species

SPECIES NAME	STATUS Federal/State/CNPS	SAN DIEGO COUNTY STATUS	HABITAT REQUIREMENTS	PROBABILITY OF OCCURRENCE
Centromadia parryi ssp. *australis* Southern Tarplant	FSC/None/1B (3-3-2)	Group A	Marshes & swamps (margins), valley & foothill grassland, vernal pools, oft in dist sites near coast; also in alkaline soils sometimes w/saltgrass; also vernal pools, 0-425 m.	No appropriate habitat on-site: Low
Chaenactis glabriuscula var. *orcuttiana* Orcutt's Pincushion	None/None/1B (2-3-2)	Group A	Coastal bluff scrub, coastal dunes. Sandy sites, 3-100 m.	No appropriate habitat on-site: Low
***Comarostaphylos diversifolia* ssp *diversifolia* Summer Holly**	**FSC/None/1B (2-2-2)**	**Group A**	**Chaparral, often in mixed chaparral in California, sometimes post-burn, 30-550 m.**	**Present on the site**
Eryngium aristulatum var *parishii* San Diego Button-celery	FE/CE/1B (2-3-2)	Covered	Vernal pools, coastal scrub, valley & foothill grassland, esp in San Diego mesa hardpan& claypan vernal pools & southern interior basalt flow vernal pools; usu surr by scrub, 15-620 m	No vernal pools present on site.
Harpagonella palmeri Palmer's Grapplinghook	FSC/--/2 (1-2-1)	Group B	Chaparral, coastal scrub, valley & foothill grassland, esp clay soils, open grassy areas, 15-830 m.	Clay soils (Las Posas) on site limited to preserve area west of Twin Oaks Valley Road; not observed
***Horkelia truncata* Ramona Horkelia**	**None/None/1B (3-1-2)**	Group A	**Chaparral, cismontane woodland, esp in habitats mixed chaparral, vernal streams, & disturbed areas near roads, clay soil, 400-1300 m.**	**A single population of 7 individuals of this plant was located in the southeastern portion of the site; not associated with mapped or site-specific mafic soil**
Isocoma menziesii var decumbens Decumbent Goldenbush	None/None/1B (2-2-2)	Group A	Coastal sage, sandy soil, often in disturbed sites, 10-910 m.	Site is too far inland for this species; *I. m. vernonioides,* a common species, was found on the site

Appendix 5. Sensitive Plants Reported from Bonsall, Pala, San Marcos and Valley Center USGS 7.5' Quads in CNDDB and MSCP/County Sensitive Species

SPECIES NAME	STATUS Federal/State/CNPS	SAN DIEGO COUNTY STATUS	HABITAT REQUIREMENTS	PROBABILITY OF OCCURRENCE
Iva haysesiana San Diego Marsh-elder	FSC/None/2 (2-2-1)	Group B	Marshes & swamps, playas, esp in riverwashes, 10-500 m.	No appropriate habitat on-site: Low
Lepechinia cardiophylla Heart-leaved Pitcher Sage	None/None/1B (3-2-2)	Covered	Closed-cone coniferous forest, chaparral, cismontane woodland, 550-1370 m.	Sought on peaks onsite but not encountered
Lepidium virginicum var. *robinsonii* Robinson's Pepper-grass	None/None/1B (3-2-2)	Group A	Chaparral, coastal scrub. Dry soils, shrubland. 1-945 m.	No found on site
Lessingia [*Corethrogyne*] *filaginifolia* var. *linifolia* Del Mar Sand Aster	FPT/None/1B (3-2-3)	County Sensitive Species, Narrow Endemic	North coastal areas in sandy soil	Site beyond normal range of this species
Monardella hypoleuca ssp. *lanata* Felt-leaved Monardella	None/None/1B (2-2-2)	Group A	Chaparral, cismontane woodland, esp. in understory in mixed chaparral, chamise chaparral & so. oak woodland; esp. sandy soil, 300-1190 m.	Searched for and not found on site
Navarretia fossalis, Spreading Navarretia	FT/None/1B (2-3-2)	County Sensitive Species	Vernal pools, chenopod scrub, marshes & swamps, playas, esp in San Diego hardpan & San Diego claypan vernal pools, in swales & vernal pools, often surr . By other habitat types, 30-1300 m.	No vernal pools on site
Quercus engelmannii **Engelmann Oak**	**None/None/4(1-2-2)**	**Group D**	**Chaparral, cismontane woodlands, riparian woodland, valley & foothill grassland**	**A few of this species occur in the Southern Oak Woodland at the southern corner of the property**
Salvia clevelandii **Cleveland Sage**	**No longer on CNPS Inventory (2001)**		**Inland coastal foothills**	**Found on ridge tops of site, although not associated with mafic soils on site**

Appendix 5. Sensitive Plants Reported from Bonsall, Pala, San Marcos and Valley Center USGS 7.5' Quads in CNDDB and MSCP/County Sensitive Species

SPECIES NAME	STATUS Federal/State/CNPS	SAN DIEGO COUNTY STATUS	HABITAT REQUIREMENTS	PROBABILITY OF OCCURRENCE
Satureja chandleri San Miguel Savory	None/None/4 (1-2-2)	County Sensitive Species	Chaparral, cismontane woodland, coastal scrub, riparian woodland, valley & foothill grassland, esp Gabbroic or Metavolcanic substrate, 120-1,005 m	Clay soils (Las Posas) on site limited to preserve area west of Twin Oaks Valley Road; not observed
Tetracoccus dioicus Parry's Tetracoccus	FSC/None/1B (3-2-2)	County Sensitive Species	Chaparral, coastal scrub, esp stony fine sandy decomposed gabbro soil, 600-1500 ft.	Clay soils (Las Posas) on site limited to preserve area west of Twin Oaks Valley Road; not observed

APPENDIX 6

Sensitive Fauna Reported from Bonsall, Pala, San Marcos, and Valley Center USGS 7.5' Quads in CNDDB or County Sensitive Species

Appendix 6. Sensitive Fauna Reported from Bonsall, Pala, San Marcos and Valley Center USGS 7.5' Quads to CNDDB or MSCP Sensitive Species

SPECIES NAME	STATUS Federal/State/CDFG	SAN DIEGO COUNTY STATUS	HABITAT REQUIREMENTS	PROBABILITY OF OCCURRENCE
Riverside Fairy Shrimp *Streptocephalus woottoni*	FE/None/CSC	County Sensive Species, Narrow Endemic	Endemic to western RIV and SD Cos, in area of tectonic swales, earth slump basins, in grassland & coastal sage scrub; esp. inhabits seasonally astatic pools, filled by winter/spring rains; hatch in warm water later in the season.	No ponded water habitat on site
San Diego Fairy Shrimp *Branchinecta sandiegonensis*	FE/None/None	County Sensive Species, Narrow Endemic	Vernal pools	No ponded water habitat on site
Quino Checkerspot Butterfly *Euphydryas editha quino*	FE/None/None		Sunny openings within chaparral & coastal sage shrublands in parts of Riverside and San Diego Counties; esp on hills & mesas near the coast, w/high densities of food plants *Plantago erecta, P. insularis, Orthocarpus purpurescens.*	Unlikely to occur because of dense chaparral habitats on site
Thorne's Hairstreak Butterfly *Callophrys* [*Mitoura*] *thornei*	FSC/None/None	County Sensive Species, Narrow Endemic	Endemic to San Diego County, where host plant, Tecate Cypress occurs, including Otay Mountain (Little Cedar Canyon)	No Tecate Cypress on site
Hermes Copper *Hermelcycaena hermes*	FSC/None/CSC		Endemic to SD Co. Continuous stands of southern mixed chaparral/coastal sage scrub with both host plant *Rhamnus crocea* and primary nectaring plant *Eriogonum fasciculatum* in very close proximity. Species usually found along fairly open dirt roads/trails. Fallbrook is most northern record. Flight season: late May-early July	*Rhamnus crocea* occurs on site, but directed search for Hermes Copper during optimal flight season (late May-early July) has not been made. Project site is north of most recent records for this species

Appendix 6. Sensitive Fauna Reported from Bonsall, Pala, San Marcos and Valley Center USGS 7.5' Quads to CNDDB or MSCP Sensitive Species

SPECIES NAME	STATUS Federal/State/CDFG	SAN DIEGO COUNTY STATUS	HABITAT REQUIREMENTS	PROBABILITY OF OCCURRENCE
Harbison's Dun Skipper *Euphys vestris harbisoni*	FSC/None/None	County Sensive Species, Narrow Endemic	Silverado Cyn, Orange Co., through San Diego Co foothills; associated w/drainages containing *Carex spissa* . Flight season: mid May - mid July	Known from Daley Ranch and extreme E-part of Escondido, among other areas. Although another *Carex* has been found on the site, additional searches for the host plant and surveys for the butterfly should be conducted if appropriate
Wandering Salt Marsh Skipper *Panoquina errans*	FSC/None/CSC	County Sensive Species	Confined to coastal salt marshes from Santa Barbara through Baja California peninsula; host plant *Distichlis spicata* . Flight season: July-Sept.	No salt marsh habitat onsite
Northern Red-diamond Rattlesnake *Crotalus exsul ruber ruber*	**FSC/None/CSC**		**Chaparral, woodland, grassland & desert areas, esp in rocky areas & dense vegetation**	**Detected on site**
Western Spadefoot, *Spea* [*Scaphiopus*] *hammondi*	FSC/None/CSC		Grassland habitats, valley-foothill woodlands, requires vernal pools for breeding	No appropriate breeding habitat on site or in vicinity
Arroyo Toad, *Bufo californicus*	FE/None/CSC	County Sensive Species	Semi-arid regions near washes or intermittent streams, incl. Valley-foothill & desert riparian, desert wash, etc., esp rivers w/sandy banks, willows, cottonwoods,	No appropriate breeding habitat on site or in vicinity and the site is not within 1 km of any known breeding habitat
California Red-legged Frog *Rana aurora draytonii*	FT/None/CSC	County Sensive Species, Narrow Endemic	Marshes, streams, lakes, reservoirs, ponds and other permanent water sources.	No perennial streams to provide habitat for this species
Southwestern Pond Turtle *Emys* [*Clemmys*] *marmorata*	FSC/None/CSC	County Sensive Species	Permanent or nearly permanent water in many habitat types; below 6000 ft, esp w/basking sites	No appropriate breeding habitat on site or in vicinity
San Diego Horned Lizard *Phrynosoma coronatum blainvillei*	**FSC/None/CSC**	**County Sensive Species**	**Coastal Sage Scrub, Chaparral in arid and semi-arid climate, esp. friable, rocky, or shallow sandy soils**	**Detected on site**

Appendix 6. Sensitive Fauna Reported from Bonsall, Pala, San Marcos and Valley Center USGS 7.5' Quads to CNDDB or MSCP Sensitive Species

SPECIES NAME	STATUS Federal/State/CDFG	SAN DIEGO COUNTY STATUS	HABITAT REQUIREMENTS	PROBABILITY OF OCCURRENCE
Coronado Skink *Eumeces skiltonianus interparietalis*	FSC/None/CSC		Grassland, chaparral, pinon-juniper sage woodland, pine-oak & pine forests in coastal ranges in so. Calif., esp prefers early successional stages or open areas, found in rocky areas close to streams & on dry hillsides	Probably occurs on site, but not observed
Belding's Orange-throated Whiptail *Aspidoscelis* [*Cnemidophorus*] *hyperythrus beldingi*	**FSC/None/CSC**	**County Sensive Species**	**Coastal Scrub (low elev.), Chaparral, Valley-foothill Hardwood, esp washes & sandy areas w/patches of brush & rocks**	**Detected on site**
Coastal Whiptail *Aspidoscelis* [*Cnemidophorus*] *tigris stejnegeri*	**FSC/None/None/None**		**Deserts & semiarid areas w. sparse vegetation & open areas, also in woodland & riparian areas, esp. where ground may be firm soil, sandy, or rocky**	**Detected on site**
Silvery Legless Lizard *Anniella pulchra pulchra*	FSC/None/CSC		Sparse vegetation of chaparral and riparian, loose soil for burrowing.	Site lacks extensive sandy soil areas
Coastal Rosy Boa *Charina trivirgata*	FSC/None/Protected		Desert & chaparral from coast to Mojave & Colorado Deserts, esp in moderate to dense vegetation & rocky cover; habitats w/mix of brushy cover & rocky soil like coastal canyons & hillsides, desert canyons, washes & mountains	May occur on site, but not detected so far
Coast Patch-nosed Snake *Salvadora hexalepis virgultea*	FSC/None/CSC		Brushy or shrubby vegetation in coastal so. CA, esp. use small mammal burrows for refuge	May occur on site; not observed
San Diego Mountain Kingsnake *Lampropeltis zonata pulchra*	None/None/CSC		Variety of habitats, incl. Valley-foothill hardwood, coniferous, chaparral, riparian and wet meadows.	Site below species normal elevation; not observed

Appendix 6. Sensitive Fauna Reported from Bonsall, Pala, San Marcos and Valley Center USGS 7.5' Quads to CNDDB or MSCP Sensitive Species

SPECIES NAME	STATUS Federal/State/CDFG	SAN DIEGO COUNTY STATUS	HABITAT REQUIREMENTS	PROBABILITY OF OCCURRENCE
Two-striped Gartersnake *Thamnophis hammondii*	FSC/None/CSC		Coastal CA., fr/ Salinas to NW Baja, fr/sea level to approx. 7000 ft ; esp. highly aquatic, found in or near permanent fresh water, often along streams w/rocky beds & riparian growths	May occur on site; not observed
California Brown Pelican *Pelecanus occidentalis californicus*	FE/CE/None	County Sensive Species	Nests on off-shore islands; roosts on shoreline or floating structures	No appropriate coastal wetlands habitat for this species
Double-crested Cormorant *Phalacrocorax auritus*	None/None/CSC		(Rookery site) Colonial nester on coastal cliffs, offshore islands, & along lake margins in interior. Nests along coast on sequestered islets, usu on ground w/sloping surface, or in tall trees along lake margins	No extensive wetland habitat to support this species
Reddish Egret *Egretta rufescens*	None/None/None	County Sensive Species	Very rare visitor in fall and winter, casual in spring and summer in coastal estuaries and bays in San Diego County	No appropriate coastal wetlands habitat for this species
White-faced Ibis *Plegadis chichi*	FSC/None/CSC	County Sensive Species	(Rookery site) Shallow freshwater marsh. Dense tule thickets for nesting interspersed w/areas of shallow water for foraging	No ponded water habitat on site
Bald Eagle *Haliaeetus leucocephalus*	FT/CT/None	County Sensive Species	Ocean shorelines, lake margins, river courses for both nesting and wintering	No appropriate aquatic habitat for this species
Northern Harrier *Circus cyaneus* (breeding)	None/None/CSC	County Sensive Species	Coastal salt marsh & fresh-water marsh, nest and forage in grasslands and farmlands	No extensive open grassland habitat on site
Sharp-shinned Hawk *Accipiter striatus*	None/None/CSC		Riparian woodlands, forests; forages at edges of open habitats.	May occasionally use oak or riparian habitats on site; not observed
Cooper's Hawk, *Accipiter cooperi*	None/None/CSC		Woodland, usu. Open, interrupted or marginal type, nests mainly in riparian areas	Probably occurs on site, but not observed

Appendix 6. Sensitive Fauna Reported from Bonsall, Pala, San Marcos and Valley Center USGS 7.5' Quads to CNDDB or MSCP Sensitive Species

SPECIES NAME	STATUS Federal/State/CDFG	SAN DIEGO COUNTY STATUS	HABITAT REQUIREMENTS	PROBABILITY OF OCCURRENCE
Swainson's Hawk *Buteo swainsoni*	FSC/CT/None	County Sensive Species	(nesting) Breeds in stands w/few trees in juniper-sage flats, riparian areas, & in oak savannah. Req adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	No extensive open grassland habitat on site
Ferruginous Hawk *Buteo regalis*	None/None/CSC	County Sensive Species	Winters in so. CA. Forages over agricultural lands, grasslands, scrub.	No extensive open grassland habitat on site
Golden Eagle *Aquila chrysaetos*	None/None/CSC		Foothills, mountains grasslands, deserts, and shrub habitats.	Historic nest on site, but not observed during numerous field visits
American Peregrine Falcon *Falco peregrinus anatum*	FP/SE/None		Variety of habitats, concentrating in coastal area in San Diego County	Absence of open water probably precludes this species
Canada Goose *Branta canadensis*	None/None/None	County Sensive Species	Abundant but localized winter visitor in San Diego County	No valley grasslands on site
Light-footed Clapper Rail *Rallus longirostris levipes*	FE/SE/None	County Sensive Species, Narrow Endemic	Salt marshes w/tidal sloughs where cordgrass & pickleweed are dominant	No appropriate coastal wetlands habitat for this species
Western Snowy Plover *Charadrius alexandrinus nivosus*	FT/None/CSC	County Sensive Species	Sandy beaches on marine & estuarine shores, also salt pond levees and alkali lake shore, esp. in sandy, gravelly for nesting	No coastal salt marsh or salt panne habitat on site
Mountain Plover *Charadrius montanus* (wintering)	FPT/None/CSC	County Sensive Species	(Wintering) Short grasslands, freshly plowed fields, newly sprouting rain fields, sometimes sod farms. Short vegetation, bare ground, flat topography. Pref grazed areas & areas w/burrowing rodents	No extensive open grassland habitat on site
Long-billed Curlew *Numenius americanus*	None/None/None	County Sensive Species	Fairly common to common fall migrant, uncommon to fairly common winter visitor and spring migrant, uncommon and local in summer to tidal mudflats and salt marshes in San Diego County	No appropriate coastal wetlands habitat for this species

Appendix 6. Sensitive Fauna Reported from Bonsall, Pala, San Marcos and Valley Center USGS 7.5' Quads to CNDDB or MSCP Sensitive Species

SPECIES NAME	STATUS Federal/State/CDFG	SAN DIEGO COUNTY STATUS	HABITAT REQUIREMENTS	PROBABILITY OF OCCURRENCE
Elegant Tern *Sterna elegans*	None/None/None	County Sensive Species	Coastal marine foraging area; limited nesting sites in southern California	No appropriate coastal wetlands habitat for this species
California Least Tern *Sterna antillarum browni*	FE/SE/None	County Sensive Species, Narrow Endemic	Nests along coast, esp colonial breeder on bare flat substrates, sand beaches, alkali flats, paved areas	No appropriate coastal wetlands habitat for this species
Burrowing Owl *Athene* [*Speotyto*] *cunicularia* (burrow sites)	**FSC/None/CSC**	**County Sensive Species, Narrow Endemic**	**Open dry annual or perennial grasslands, desert & scrublands w/low growing vegetation, uses ground squirrel burrows for nesting**	**This species was detected in the 1978 surveys for Safa Ranch, which covered the northern part of the central valley of the present Merriam site. The 1978 report had no discussion on this species; any detection of this species must have been in the grassy area of the central valley. No observations have been made of this species in the numberous field vists since 1978.**
Western Willow Flycatcher, *Empidonax traillii extimus*	FE/SE/None	County Sensive Species	Extensive thickets of low, dense willows, often near streams; 2000-8000 ft elev.	No appropriate breeding habitat on site or in immediate vicinity
Loggerhead Shrike *Lanius ludovicianus*	FSC/None/CSC		Open habitats with scattered shrubs & other perches.	Site lacks open grassy or low shrub habitats; not observed
Least Bell's Vireo *Vireo bellii pusillus*	FE/CE/None	County Sensive Species	Summer resident in So. Calif., inhabits low riparian growth in vic. Of water or in dry river bottoms, below 2000 ft, usu. Willow, baccharis mesquite	No appropriate breeding habitat on site or in vicinity
Coastal Cactus Wren *Campylorhynchus brunneicapillus couesi*	None/None/CSC	County Sensive Species	Southern California coastal sage scrub, esp w/tall opuntia cactus for nesting	No appropriate breeding habitat on site or in vicinity
Coastal California Gnatcatcher *Polioptila californica californica*	**FT/None/CSC**	**County Sensive Species**	**Coastal sage scrub, below 2,500 ft in So. California, esp low coastal scrub in arid washes, mesas & slopes**	**Detected on site**
Western Bluebird, *Sialia mexicana*	None/None/None	County Sensive Species	Small groups in fields or open woodlands, often perched on wires or fences.	Not detected but probably occurs during winter months

Appendix 6. Sensitive Fauna Reported from Bonsall, Pala, San Marcos and Valley Center USGS 7.5' Quads to CNDDB or MSCP Sensitive Species

SPECIES NAME	STATUS Federal/State/CDFG	SAN DIEGO COUNTY STATUS	HABITAT REQUIREMENTS	PROBABILITY OF OCCURRENCE
California Thrasher *Toxostoma redivivum*	**None/None/None**		**Fairly common to common resident and closely associated with chaparral in San Diego County**	**Detected on site**
Yellow Warbler *Dendroica petechia brewsteri*	None/None/SC		Riparian plant associations, prefers willows, cottonwoods, aspens, sycamores & alders for nesting & foraging, esp nests in montane shrubbery in open conifer forests.	May occur in preserved eastern or western riparian habitats during spring summer periods; not detected
Yellow-breasted Chat *Icteria virens*	None/None/CSC	County Sensive Species	Summer resident in riparian thickets of willow & other brushy tangles near watercourses, nests in low, dense riparian habitat.	May occur in eastern or western riparian habitats during spring summer periods; not detected
Southern California Rufous-crowned Sparrow *Aimophila ruficeps canescens*	FSC/None/CSC		Coastal sage scrub, sparse chaparral, esp rel. steep, often rocky hillsides w/grass & forb patches	Probably occurs on site, but not observed
Bell's Sage Sparrow *Amphispiza belli*	FSC/None/CSC	County Sensive Species	Coastal chaparral, coastal sage scrub, and sagebrush desert habitat.	May occur on site but not detected
Belding's Savannah Sparrow *Passerculus sandwichensis beldingi*	FSC/SE/None	County Sensive Species, Narrow Endemic	Coastal salt marshes, nests in *Salicornia* near tidal flats	No appropriate coastal saltmarsh habitat for this species
Large-billed Savannah Sparrow *Passerculus sandwichensis rostratus*	?/None/CSC	County Sensive Species	Rare winter visitor to coastal southern California; breeds in Colorado River delta	No appropriate coastal saltmarsh habitat for this species
Grasshopper Sparrow *Ammodramus savannarum*	None/None/CSC		Dense grassland w/tall forbs & scattered shrubs for singing perches.	No extensive grassy habitats required by this species
Tricolored Blackbird *Agelaius tricolor* (colony)	FSC/None/CSC	County Sensive Species	Breeds near fresh water in emergent wetlands w/dense cattails or tules. Feeds in grassland & cropland.	No appropriate foraging or nesting habitat
Yellow-headed Blackbird *Xanthocephalus canthocephalus*	None/None/CSC		Uncommon to rare migrant and winter visitor and very rare summer visitor in freshwater marshes in coastal lowland of San Diego County (Unitt 1984)	No extensive freshwater marsh, croplands, or grasslands on site

Appendix 6. Sensitive Fauna Reported from Bonsall, Pala, San Marcos and Valley Center USGS 7.5' Quads to CNDDB or MSCP Sensitive Species

SPECIES NAME	STATUS Federal/State/CDFG	SAN DIEGO COUNTY STATUS	HABITAT REQUIREMENTS	PROBABILITY OF OCCURRENCE
California Leaf-nose Bat *Macrotus californicus*	None/None/CSC		Distribution poorly known; strongly associated w/desert riparian & wash habitats; roost in mine shafts & caves.	Primarily confined to desert mountain ranges in the Colorado River basin.
Yuma Myotis *Myotis yumanensis*	FSC/None/CSC		Open forest & woodlands. Closely tied to bodies of water.	Very little roosting habitat on site. May forage in riparian areas with water.
Long-eared Myotis *Myotis evotis*	FSC/None/CSC		Trees, buildings, caves, and mines. Brush, woodland, forest, > 4,000 ft.	Very limited roosting habitat on site.
Western Red Bat *Lasiurus blossevillii*	None/None/None		Trees along or near waterways with open foraging areas. Feeds over grasslands, shrublands, woodlands & forests.	Moderate potential for occurrence; may occur along riparian areas during migration
Townsend's Big-eared Bat *Corynorhinus townsendii*	FSC/None/CSC		Day roosts include caves & mines, but may be found in buildings. Distribution not well known. Prefers mesic habitats.	No appropriate day roosting (cave or cave-like) habitat on site.
Big Free-tailed Bat *Nyctinomops macrotis*	None/None/CSC		Small colonies in rocky cliffs or crevices. Found in desert scrub, desert riparian, scrublands, pinyon-juniper woodlands. Rocky areas with high cliffs.	Very little day roosting (cliff faces) habitat on site. May forage over the site.
Western Mastiff Bat *Eumops perotis californicus*	FSC/None/CSC		Small colonies in rocky cliffs or crevices. Variety of open habitats including woodlands, coastal sage scrub, grasslands, chaparral, desert scrub, and urban.	Very little day roosting (cliff faces) habitat on site. May forage over the site. (Known to occur near the site).
San Diego Black-tailed Jackrabbit *Lepus californicus bennettii*	FSC/None/CSC		Variety of habitats including coastal sage scrub, chaparral, & desert scrub.	May occur on site but not detected
Dulzura (California) Pocket Mouse *Chaetodipus californicus femoralis*	FSC/None/CSC		Variety of habitats incl coastal scrub, chaparral, sagebrush, & grassland. Attracted to grassland-chaparral edges	May occur on site but not detected

Appendix 6. Sensitive Fauna Reported from Bonsall, Pala, San Marcos and Valley Center USGS 7.5' Quads to CNDDB or MSCP Sensitive Species

SPECIES NAME	STATUS Federal/State/CDFG	SAN DIEGO COUNTY STATUS	HABITAT REQUIREMENTS	PROBABILITY OF OCCURRENCE
Stephens' Kangaroo Rat, *Dipodomys stephensi*	E/T/None		Annual & perennial grasslands, also coastal scrub, sagebrush, esp w/buckwheat, chamise, brome grass & filaree; will burrow into firm soil.	No appropriate habitat on site
San Diego Desert Woodrat *Neotoma lepida intermedia*	**FSC/None/CSC**		**Mixed & chamise-redshank chaparral, sagebrush & other habitats. Prefers rocky areas to build stick nest**	**Detected on site**
American Badger, *Taxidea taxus*	None/None/None	County Sensive Species	Uncommon resident throughout the state. Abundant in drier open shrub, forest and herbaceous habitats with friable soils.	May occur on site, but not detected so far
Mountain Lion, *Felis* (*Puma*) *concolor*	None/None/Protected	County Sensive Species	Widespread, uncommon resident ranging from sea level to alpine meadows. Variety of habitats except xeric regions of the deserts..	Nearby residents indicate this species occurred on extreme NE part of site but not seen in several years
Southern Mule Deer *Odocoileus hemionus*	None/None/Game Species	County Sensive Species	Common to abundant with a wide distribution throughout the state. Prefers mosaic of various-aged vegetation habitats, brushy areas and tree thickets are important for escape cover.	Detected on site during early surveys of property.

DEFINITIONS OF SENSITIVITY RATINGS

CNPS Lists	
List 1A	Plants Presumed Extinct in California
List 1B	Plants Rare, Threatened, or Endangered in California and Elsewhere
List 2	Plants Rare, Threatened, or Endangered in California But More Common Elsewhere
List 3	Plants About Which We Need More Information--A Review List
List 4	Plants of Limited Distribution--A Watch List

CNPS R-E-D Code	
R (Rarity)	
1	Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction is low at this time
2	Distributed in a limited number of occurrences, occasionally more if each occurrence is small
3	Distributed in one to several highly restricted occurrences, or present in such small numbers that it is seldom reported.
E (Endangerment)	
1	Not endangered
2	Endangered in a portion of its range
3	endangered throughout its range
D (Distribution)	
1	More or less widespread outside California
2	Rare outside California
3	Endemic to California

State-Listed/Designated Species	
CE	State-listed, endangered
CT	State-listed, threatened
CR	State-listed, rare
CC	Candidate for State listing
CSC	California Special Concern species (Department of Fish and Game

Federally-Listed/Designated Species	
FE	Federally-listed, endangered
FT	Federally-listed, threatened
FPT	Federally-proposed, endangered
FSC	Federal Special Concern Species

APPENDIX 7

Documented Cumulative Biological Resource Impacts from Merriam Mountains Biological Study Area (Area in Acres)

Vegetation Type	Cumulative Impact Total	Merriam SP Cumulative Contribution (ac)	Merriam SP Cumulative Contribution (%)
Eucalyptus Wdld	6.65	3.10	46.62
Disturbed	35.33	4.10	11.60
Urban/Developed	68.05	35.00	51.43
Agriculture	81.18	8.20	10.10
Diegan Coast Sage	366.22	27.30	7.45
Chaparral	1185.45	1079.30	91.05
Non-native Grassland	111.75	20.70	18.52
Grassland	0.01	0.00	0.00
Riparian	3.87	1.30	33.59
Wetland	4.24	2.10	49.53
Coyote Bush Scrub	0.60	0.00	0.00
SW Willow Scrub	5.49	0.60	10.93
S. Oak Wdlnd	2.94	0.00	0.00
Oak	22.89	2.40	10.48
TOTAL	1894.67	1184.10	N. A.

Note: See text for vegetation type definitions

APPENDIX 8

Jurisdictional Delineation

APPENDIX 8
JURISDICTIONAL DELINEATION
MERRIAM MOUNTAINS PROJECT SITE,
SAN DIEGO COUNTY, CALIFORNIA

16 March 2005

INTRODUCTION

This study was conducted to identify and map jurisdictional federal and state areas, and county of San Diego's Resource Protection Ordnance (RPO) wetlands occurring on the Merriam Specific Plan project area (site), located in north-central San Diego County, California. Pacific Southwest Biological Services, Inc. (Pacific Southwest) performed the fieldwork, in order to determine the locations of wetlands in relationship to the proposed project design.

JURISDICTIONAL DRAINAGES, WETLANDS AND/OR WATERS OF THE U. S.

SUMMARY OF REGULATIONS

There are three key agencies that regulate activities within inland streams, wetlands and riparian areas in California. The Army Corps of Engineers (Corps) regulates activities pursuant to Section 404 of the Federal Clean Water Act (CWA), and Section 10 of the Rivers and Harbors Act. The California Department of Fish and Game (CDFG) regulates activities under the Fish and Game Code Section 1600, and the Regional Water Quality Control Board (RWQCB) under Section 401 of the Federal CWA and waste discharge permit under the California Porter-Cologne Act. Additionally, local governments, such as San Diego County, may have local regulations affecting wetlands habitats (see below).

Army Corps of Engineers

The Corps has regulatory authority over the discharge of dredged or fill material into the waters of the United States under Section 404 of the CWA. The term "waters of the United States" includes (1) all waters that have, are, or may be used in interstate or foreign commerce (including sightseeing or hunting), including all waters subject to the ebb and flow of the tide; (2) wetlands; (3) all waters such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds; the use, degradation or destruction of which could affect interstate or foreign commerce; (4) all impoundments of water mentioned above; (5) all tributaries of waters mentioned above; (6) the territorial seas; and (7) all wetlands adjacent to the waters mentioned above. Under this definition, and in the absence of wetlands, the limits of the Corps' jurisdiction in non-tidal waters extend to the ordinary high water mark (OHWM), which is defined as "...that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."

Wetlands, a subset of jurisdictional waters, are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions". The Corps has developed a methodology for determining the boundaries of jurisdictional wetlands that is published in the document known as the 1987 *Manual.* The methodology set forth in the manual is based on the following three indicators that are normally present in wetlands: (1) hydrology providing permanent or periodic inundation by groundwater or surface water, (2) hydric soils, and (3) hydrophytic vegetation. In order to be considered a wetland, an area must exhibit at least minimal hydric characteristics within all three of these parameters.

Regional Water Quality Control Board

The RWQCB is the primary agency responsible for protecting water quality in California. The RWQCB regulates discharges to surface waters under the federal CWA and the California Porter-Cologne Water Quality Control Act. The RWQCB's jurisdiction extends to all waters of the State and to all waters of the United States, including wetlands. The RWQCB's San Diego Office is the agency with jurisdiction for this site.

The CWA Section 401 gives the RWQCB the authority to regulate, through 401 Certification, any proposed federally-permitted activity that may affect water quality. Among such activities are discharges of dredged or fill material permitted by the Corps under CWA Section 404. Certification or waiver must be based on a finding that the proposed discharge will comply with water quality standards.

California Department of Fish and Game

The state of California regulates activities in rivers, streams, and lakes pursuant to Section 1600 of the Fish and Game Code. These sections discuss the process by which an individual, government agency, or public utility must notify the CDFG prior to any activity that would "substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake..." Following such notification, the CDFG must inform the individual, agency, or utility of the existence of any fish and wildlife resource that may be substantially adversely affected by the activity. The CDFG must also include a proposal for measures to protect fish and wildlife resources. This proposal is called a "Streambed Alteration Agreement." Administration of this area is initially out of the CDFG's San Diego Region Office.

Jurisdictional limits of the CDFG are not as clearly defined by regulation as those of the Corps. While they closely resemble the limits described by Corps regulations, they exclude isolated wetlands (those not associated with a stream, river, or lake, such as isolated vernal pools) and include riparian habitat supported by a river, stream, or lake regardless of the presence or absence of hydric soils and saturated soil conditions. Generally, CDFG takes jurisdiction to the bank of the stream or to the outer limit of the adjacent riparian vegetation, which ever is greater. However, the Fish and Game Commission has provided the definition of the jurisdictional extent of the Section 1600 regulations as an Appendix to the Fish and Game Code. This definition follows that of the U.S. Fish and Wildlife Service and requires only one of the three Corps of Engineers criteria.

County of San Diego

The property is under the guidelines of the county's Resource Protection Ordnance (RPO). RPO defines wetlands as "all lands which are transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or where the land is covered by water. All lands having one or more of the following attributes are wetlands:

a. At least periodically, the land supports predominantly hydrophytes.

b. The substratum is predominantly undrained hydric soil.

c. The substratum is non-soil and is saturated with water or covered by water at some time during the growing season of each year.

The county requires no impacts to RPO wetlands. The county also requires the placement of a biological buffer adjacent to any RPO wetlands.

ACTIVITIES REQUIRING PERMITS

Any development proposal that involves impacting the jurisdictional drainages, streams, or wetlands on the site through filling, stockpiling, conversion to a storm drain, channelization, bank stabilization, road or utility line crossings, or any other modification would require permits from the Corps, the RWQCB, and the CDFG before any development could commence on the project site. Both permanent and temporary impacts are regulated and would trigger the need for permits. Processing of the Section 401 Permit and Section 1602 Agreement can occur concurrently with the Corps permit process and can utilize the same information and analysis. The Corps will not issue its authorization until RWQCB completes the Section 401 Water Quality Waiver or Certification.

Applications to both the RWQCB and the CDFG require submittal of a certified or adopted California Environmental Quality Act (CEQA) document along with the application.

STUDY AREA

Merriam Mountains site occupies most of the northern half of the Merriam Mountains and is located in north-central San Diego County, California, north of Deer Springs Road and west and adjacent to Interstate Highway 15 (Figure 1: Regional Map). The site is approximately 14 miles inland from the coast and 22 mile north of the U.S./Mexican Border (UTM: 11-S; 485,000mE, 3,677,000mN). Elevations range from approximately 800 feet to 1,600 feet above mean sea level. The study area is approximately 2,327 acres of undeveloped lands that includes mostly steep slopes with narrow ridgelines and deep ravines covered with a dense growth of Chamise (*Adenostoma fasciculatum*)-dominated Southern Mixed Chaparral vegetation covering most of the property. Other vegetation types occurring on the study area include small amounts of Non-native Grassland, Diegan Coastal Sage Scrub, Southern Oak Woodland, and Southern Willow Scrub. Dirt roads proved access to most areas of the site (Pacific Southwest 2005). Surrounding land use includes low-density residential, avocado and citrus groves, commercial areas, and a quarry.

MATERIALS AND METHODS

Prior to field visits, Pacific Southwest reviewed pervious vegetation maps, soils maps of San Diego County (Bowmen 1978) for hydric soils, and aerial photographs of the study area to determine the location of potential ACOE, CDFG, and County RPO wetlands and drainages. Fusco Engineering provided recent (2003) large-scale (1 inch = 200 feet) aerial photographs with topographic lines of the property to assist with the location and mapping of wetlands, vegetation, and drainages in the field.

In July 2003, Pacific Southwest conducted five days of field visits to identify and map federal and state jurisdictional areas, as well as County RPO jurisdictional wetlands in relation to the proposed project and impact area. The fieldwork covered the entire site by foot and concentrated on potential wetland areas identified from the maps and photographs. Due to the dense vegetation and steepness of the slopes access to portions of the property was impossible, these portions of the property were surveyed using binoculars to locate wetland vegetation. These areas were plotted on the large-scale air photos in the field and analyzed in the office. Drainages and wetlands that were accessible and met the definitions of ACOE, CDFG, and County RPO wetlands were mapped in the field, on a large-scale map. Measurements (in feet) were taken that included lengths and widths, either from the ordinary high watermark and/or from bank to bank for drainages. The boundaries of wetland vegetation were outlined on the aerial photo in the field and measured in the field. Dominant wetland plant species were identified in the field. Vegetations/habitat types are based on the Holland Codes (1986) or Holland Codes, as modified by Oberbauer, (1996). Erosional features that had no bed or bank or ordinary high water mark were not classified as drainages and were not mapped for this study. Photographs were taken of several of the wetland and drainages. Field data collected by Pacific Southwest was sent to Dudek and Associates, Inc. (Dudek) to be entered into a GIS database. Dudek produced a summary jurisdictional area and wetland map for the Merriam Mountains project site.

RESULTS

Soils for the property are generally mapped as Acid Igneous Rock, Cieneba, Escondido, Fallbrook, Friant, Los Posas, Vista Rock, Wyman series (Bowman 1973). None of these soils are listed as a hydric soil of California (ACOE 1987). The steep slopes and ridgelines create five major watersheds (A through E) (see Figure 3), each with numerous erosional features and jurisdictional drainages.

Most of the drainages on-site do not support a predominance of hydrophytes, the substrate is not predominantly undrained hydric soil, nor includes characteristics of reducing soil conditions. In some instances, the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year. These areas are classified as ACOE Non-Wetland waters of the U. S. and CDFG Streambeds.

The property includes very little ACOE jurisdictional wetland areas, based on the definitions listed above. There are several small isolated areas of riparian vegetation located within some of the drainages scattered through out the property (Figure 3). Most of the drainages did not have surface water or saturated soils at the time of the survey. These isolated

riparian areas do not meet the three required criteria to be classified as ACOE wetlands. However, these riparian areas meet one (vegetation) of the three required criteria for the CDFG Code and the County's RPO, and therefore are classified as CDFG wetlands and County RPO wetlands.

Two major jurisdictional wetland areas occurring in Watersheds A and D had surface water during the survey and are classified as ACOE, CDFG, and RPO wetlands (Figure 3). Another wetland area in Watershed D, in the northern portion of the property near the old airport, had water at approximately four feet below the ground level. Each watershed is briefly discussed below. The property includes approximately 46,305 linear feet of ephemeral drainages and approximately 11,920 liner feet of intermittent drainages. Table 1 summarizes the wetland and non-wetland acreage by federal, state, and county jurisdictions and length of jurisdictional drainages.

Table 1: Areas of Jurisdictional Wetlands and Non-wetland Waters (in Acres).

Jurisdiction	Wetland Area	Non-Wetland Waters Area	Jurisdictional Length (liner Feet)
ACOE/RWQCB	0.1	6.0	58,225
CDFG	7.6	7.1	58,225
County RPO	7.8	0.0	NA

Watershed A-Southwest Fork Moosa Canyon Tributary:

This area supports Southern Willow Scrub (SWS), Southern Willow Scrub/Mule-fat Scrub (SWS/MFS), and SWS/Coast Live Oak Riparian (CLOR)/Sycamore Woodland (Figure 3). This watershed includes the largest and most diverse riparian vegetation and includes both CDFG, and RPO wetlands. This area had surface water during the survey. Although the soils are not mapped as hydric (Bowman 1973) or listed as hydric soils, the presence of surface water has created hydric soil characteristics. This drainage also includes CDFG wetlands. This area will not be impacted by the project as designed.

Watershed B-San Marcos Creek Tributary:

This area includes SWS, MFS, and CLOR. The SWS and MFS are small isolated areas occurring in the southern portion of the property. Two areas of CLOR occur in the same drainage system. These RPO wetland areas occur within ACOE Non-wetland waters of the U. S. and CDFG Streambed (Figure 3). The two small areas of SWS are isolated from the other wetland areas occurring downstream.

Watershed C-Basin C:

This watershed does not include any jurisdictional wetland areas, but includes ACOE Non-wetland waters of the U. S. and CDFG Streambeds (Figure 3).

Watershed D-South Fork Gopher Canyon Tributary:

This watershed includes the largest area of diverse riparian vegetation. This area includes areas of Fresh Water Marsh (FWM), SWS, and CLOR (Figure 3). Surface water was flowing during the survey. A small area (0.1 acre) of FWM occurs in this drainage and is classified as an ACOE wetland. This drainage also includes CDFG wetlands.

Watershed E-Basin E:

This area includes two small areas of SWS located within an ACOE and CDFG drainage (Figure 3).

IMPACTS

The project, as designed, would impact approximately 2.1 acre of RPO wetlands of which one acre is also CDFG jurisdictional wetlands (see Figure 2, Proposed Project and Figure 3). Impacts are expected to occur to jurisdictional drainages from grading, the construction of roads, culverts, and rechanneling of some of the larger drainages. However, no design of the crossings, culverts, or rechanneling has been submitted that would allow for the exact impacts to drainages to be calculated. Table 2 summarizes the potential impacts to jurisdictional areas from the proposed project.

Table 2: Summary of Potential Impacts to Jurisdictional Wetlands and Non-Wetland Waters (Areas in Acres)*.

Jurisdiction	Existing	Impacted	Non-Impacted
ACOE/RWQCB Wetland	0.1	0.0	0.1
ACOE/RWQCB Non-Wetland Waters	6.0	1.9	4.1
CDFG Wetland	7.6	1.0	6.6
CDFG Non-Wetland Waters	7.1	2.7	4.3
County RPO Wetland	7.8	1.1	6.7

* Data provided by Dudek.

DISCUSSION

The Merriam Mountain property includes sharp ridgelines and very steep slopes. The topography of the property creates the upper reaches of five watershed areas. Because the property is basically the top of the watersheds, these areas do not hold water long enough to form wetland areas. Much of the water that falls on the site flows rapidly down hill and is retained only in a few flat areas. Many of the erosional features do not show signs of flow nor have bed/bank features, and include only upland vegetation (Southern Mixed Chaparral). Water may flow in some of these drainages only during times of heavy rainfall. It appears that many of the drainages do not experience flow once per growing season. These drainages are not jurisdictional waters of the U.S. or state streambeds. Only two areas had surface flow at the time of the survey. Both of these areas would not be impacted by the project, as presently designed. Most of the drainages on-site that show sign of flow, including an ordinary high water mark and have bed/bank features are classified as ACOE waters of the U. S. and/or CDFG streams.

Since the soils on site are not listed as hydric soils. Soil sampling of the property includes only a small amount of ACOE wetlands, which is one of the three criteria required by ACOE to be classified as an ACOE wetland. Since areas on-site support riparian vegetation, these are classified as CDFG wetlands and County RPO wetlands, as the presence of riparian vegetation is one of the three individually required criteria to be classified as CDFG and RPO wetlands. Most of these wetlands areas are small pockets of isolated riparian vegetation (Southern Willow Scrub and Mule-fat Scrub), with the exception of two major areas, growing in

low portion of drainages (Figure 3). Because of the small size and isolation from other riparian area occurring off site, the smaller wetland areas occurring on the site offer very limited biological function/diversity to the Merriam Mountain property.

In addition to the naturally occurring drainages and riparian areas occurring on the property, there are some areas of emergent wetland vegetation that exist because of the leaking water pipes installed in the 1970's by the Vallecito Water District.

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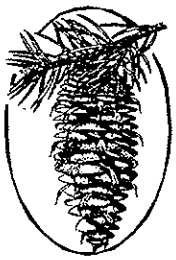
APPENDIX 9

Protocol Surveys



MERRIAM MOUNTAINS PARCELS
SAN DIEGO COUNTY, CALIFORNIA

COASTAL CALIFORNIA GNATCATCHER
(*Polioptla californica californica*)
SURVEY RESULTS

UTM: 11-S; 487,369mE, 3,674,300mN;

Prepared for:
Stonegate Development Company
Ana Lisa Armanino
27071 Cabot Road, Suite 106
Laguna Hills CA 92653
Telephone 949-367-9400
Facsimile 949-367-9405

Prepared by:
Pacific Southwest Biological Services, Inc.
Post Office Box 985
National City CA 91951-0985
Telephone 619-477-5333
Facsimile 619-477-5380
E-mail: bio@psbs.com

PSBS# T692C

2 July 2002

Douglas W. Allen
Permit TE-827448-2

MERRIAM MOUNTAINS PARCELS
SAN DIEGO COUNTY, CALIFORNIA

COASTAL CALIFORNIA GNATCATCHER (*Polioptla californica californica*) SURVEY RESULTS

2 July 2002

SUMMARY AND INTRODUCTION

A presence/absence survey for the Threatened California Gnatcatcher (*Polioptila californica californica*) (Gnatcatcher) was performed on appropriate habitat of the 1,977-acre Merriam Mountains parcel by the biological staff of Pacific Southwest Biological Services, Inc., (Pacific Southwest). This survey was carried out according the protocol for such surveys established by the U. S. Fish and Wildlife Service (USFWS1997). A majority of the Merriam Mountains parcel is covered in Southern Mixed Chaparral vegetation. Only approximately 40 acres of Diegan Coastal Sage Scrub occur on the property and is considered appropriate Gnatcatcher habitat. All habitats likely to be used or occupied by the Gnatcatcher were surveyed and two Gnatcatchers were detected in the southeast portion of the Merriam Mountains parcel during the survey (Figure 1). Two Gnatcatchers were observed in the same general area during a spring zoological survey conducted by Pacific Southwest in 2001.

SITE PHYSIOGRAPHY

The topography of the Merriam Mountains (Figure 1) consists of a narrow chain of hills or low mountains, running north to south. These mountains originate near the northern end of the urban parts of the City of Escondido and continue some distance beyond the northern boundary of the property. The eastern edge of the mountains is limited by U. S. Interstate Highway 15 (I-15), the western limit of the mountains is at Twin Oaks Valley. The property is located in the central portion of Merriam Mountains, west of I-15. The property contains steeply incised valleys, trending east to west, with flatter areas on some of the mountain summits. Large granodiorite outcroppings and pinnacles occur throughout the mountain range on the property.

The principal rock types of the property and the Merriam Mountains consist of Jurassic-Triassic Santiago Peak Metavolcanics in the northern portion and Mesozoic Granodiorite in the southern portion. Exposure of both rock types, but particularly the Granodiorite, has resulted in spectacular promontories on several of the minor peaks that cap the ridge of this small mountain range. The South Fork of Gopher Canyon area is mapped as Upper Jurassic marine formation. In the southern portion of the site, but largely off-site toward U. S. Interstate Highway 15 (I-15), several area of cliff-like rock exposures are evident. The southern valley's geology involves alluvial material of recent origin. The soils of the site are associated with the underlying rocks and sediments and are mapped as Cieneba for 90% of the site, with Vista and Ramona series at the north and south end respectively. Placentia, Wyman and Las Posas soils are limited on the assemblage to the southeastern Deer Springs corner.

The elevation range of the parcel assemblage ranges from 1,752 to 680 feet above mean sea level with several minor valleys with rather level contours. Land uses about the site are largely agricultural groves of avocados as well as some minor residential areas. An abandoned quarry operation lies at the northwestern site of the site where an avocado grove also occurs on one of the assembled parcels. An old aircraft landing strip has resulted in a level, yet rutted area in the north central region. Several dirt roads run about the site and several more occur suitable only for the several dirt bikes that use the site. A water system has been installed in part of the southern portion of the assemblage with two water tanks on the assemblage.

VEGETATION

The Merriam Mountains property contains representative vegetation associations and wildlife habitats common to north-central San Diego County. Most of the property is vegetated with undisturbed native plant associations involving Chaparral Coastal Sage Scrub, Willow Riparian Woodland and Southern Oak Woodland. Due to the low rainfall during the year 2001/2002 growing season, the survey areas are extremely dry. Only minor areas, including the roads about the site, reflect any disturbance. Nomenclature for vegetation is taken from Holland (1986) and Oberbauer (1996)

Southern Mixed Chaparral (#37120)

The parcel assemblage is largely covered by Southern Mixed Chaparral that varies from an almost pure "Chamisal" of Chamise (*Adenostoma fasciculatum*) to a Mountain-Mahogany-dominated type (*Cercocarpus minutiflorus*) in the deeper soil inner valleys. The indicators of the more widespread Southern Mixed Chaparral on the assemblage are: Chamise, Mission Manzanita (*Xylococcus bicolor*), Black Sage (*Salvia mellifera*) and Ramona Wild-lilac (*Ceanothus tomentosus*). The extent of exposure, soil depth and slope affect the extent of the diversity of the chaparral on the assemblage.

Diegan Coastal Sage Scrub (#32500)

Several relatively limited areas of the assemblage are covered with the open Diegan Sage Scrub vegetation. The most extensive occurs on the south-facing slopes of the southern valley. At the northwestern corner of the assemblage, those areas not cleared by the aqueduct or for the avocado groves have an association of California Sage Brush (*Artemisia californica*) and Flat-top Buckwheat (*Eriogonium fasciculatum*). The northern-most extension of the assemblage also has a Sage Scrub cover, but this appears to be due to prior clearing of the chaparral vegetation and should be better considered as successional Sage Scrub.

Coast Live Oak Woodland (#71160)

The Deer Springs area at the southeastern corner of the assemblage has a mature stand of Coast Live Oak (*Quercus agrifolia*) and Engelmann Oak (*Q. engelmannii*). The area was the site of a prior residence, so the understory is largely disturbed and recruitment or new growth of young trees has been arrested by the presence of the weedy understory. Coast Live Oaks also occur scattered about the site, especially as part of the chaparral vegetation on protected north-facing slopes, but the principal mapped unit of Oak Woodland lies only at this southeastern corner and the following site. The drainage that flows out of the southern valley has Riparian Oak Woodland that differs from the savannah-type Oak Woodland at the southern area.

Non-native Grassland (#42200)

The southern valley is an open field of non-native grasses and forbs, largely Ripgutgrass (*Bromus diandrus*). Wildlife agencies consider them valuable as foraging habitat for a variety of raptorial birds (hawks and eagles).

Southern Willow Scrub (#63320)

Scattered about the property are wetland-associated Southern Willow Scrub consisting largely of Black Willow (*Salix gooddingii*) and Arroyo Willow (*S. lasiolepis*). The largest extent of this vegetation on site is in the bottom of the eastern central canyon. As mentioned above, Southern Willow Scrub runs off the assemblage from the southern valley but this area is dominated by Coast Live Oaks. In the area of the old airstrip, wetland vegetation, largely willow woodland has become established due to the alteration by grading associated with the construction of the level airstrip. Riparian habitats of any kind are usually considered by wildlife agencies to have very high wildlife value for the cover, nesting habitat and food sources this habitat provides.

METHODS

As required by Service protocol guidelines, a pre-notification of Coastal California Gnatcatcher Survey for the project site was sent to the Service Carlsbad Field Office on 2 April 2002. The survey was carried out by Doug Allen, who is authorized to carry out such surveys under Department of the Interior Permit TE-827448-2. Field methods consisted of slowly walking through all potentially appropriate Gnatcatcher habitats and careful listening for all calls and songs. Additionally the surveyor, where appropriate, played recorded Gnatcatcher calls with a portable cassette tape recorder, and listened for responses. Identification was visually confirmed using 10X40 binoculars. All birds identified by call, song, or visual evidence were recorded in a field notebook. A list of faunal species observed is included in this report (Appendix 1). Due to weather conditions during the survey, only a portion of the parcel was survey during one visit and the remainder was survey later the same week. Table 1 lists the times and weather condition of the surveys. As required by the USFWS a copy of this report is being forwarded to the Carlsbad Field Office.

Table 1. Summary of Field Conditions

DATE	PERSONNEL	TIME	FIELD CONDITIONS
16 April 2002	Doug Allen	0700-1130	Start: 59.0°F, Clear, Calm Finish: 59.9°F, 100% Overcast, SW@ 5mph
14 May 2002	Doug Allen	0615-0730 (Southeastern portion only)	Start: 63.7°F, Clear, Calm Finish: 66.2°F, Clear, Calm
16 May 2002	Doug Allen	0615-0930 (Northern & central portion only)	Start: 55.0°F, 100% overcast, N/NE @ 2mph Finish: 61.1°F, Clear, Calm
23 May 2002	Doug Allen	0630-1230	Start: 62.8°F, Clear, Calm Finish: 78.2°F, Clear, Calm

RESULTS

AVIAN SPECIES OBSERVED

Twenty species of birds were recorded on the project site during the surveys. A cumulative list is attached to this report as Appendix 1. The species observed are typical of Diegan Coastal Sage Scrub. However, the total number of avian species would be higher if the entire property was surveyed including other habitat

Two California Gnatcatchers were detected on the property during the survey (Figure 1). In a zoological survey of the property in 2001, a pair of Gnatcatchers was sighted in the same general area. It is not known if this is the same pair. These were the only Gnatcatcher sightings during the three field visits.

DISCUSSION

The birds observed on the project site were consistent with those typically expected in the observed habitats in the southern foothills of San Diego County within Coastal Sage Scrub,

The project site is generally within the known San Diego County distribution of the Gnatcatcher, although the species is generally less common so far inland from the coast. Gnatcatchers have been recorded from the general property area. The reasons for the Gnatcatcher's low abundance on the property in what appears to be appropriate habitat are not clear, but may include the relative steepness of the terrain (Gnatcatchers generally do not nest on slopes of greater than 30% [Atwood and Bolsinger 1992] and/or the drought conditions of the property.

OTHER SENSITIVE SPECIES DETECTED

Three sensitive reptile species were observed on the property during the 2001 general zoological survey. These are the San Diego Horned Lizard (*Phrynosoma coronatum blainvillei*), Orangethroat Whiptail Lizard (*Cnemidophorus hyperythrus beldingi*) and the Red Diamond Rattlesnake (*Crotalus ruber ruber*). These three species are listed as Federal Species of Concern.

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APPENDIX 1. LISTING OF ANIMALS OBSERVED OR DETECTED IN THE MERRIAM MOUNTAINS PROPERTY

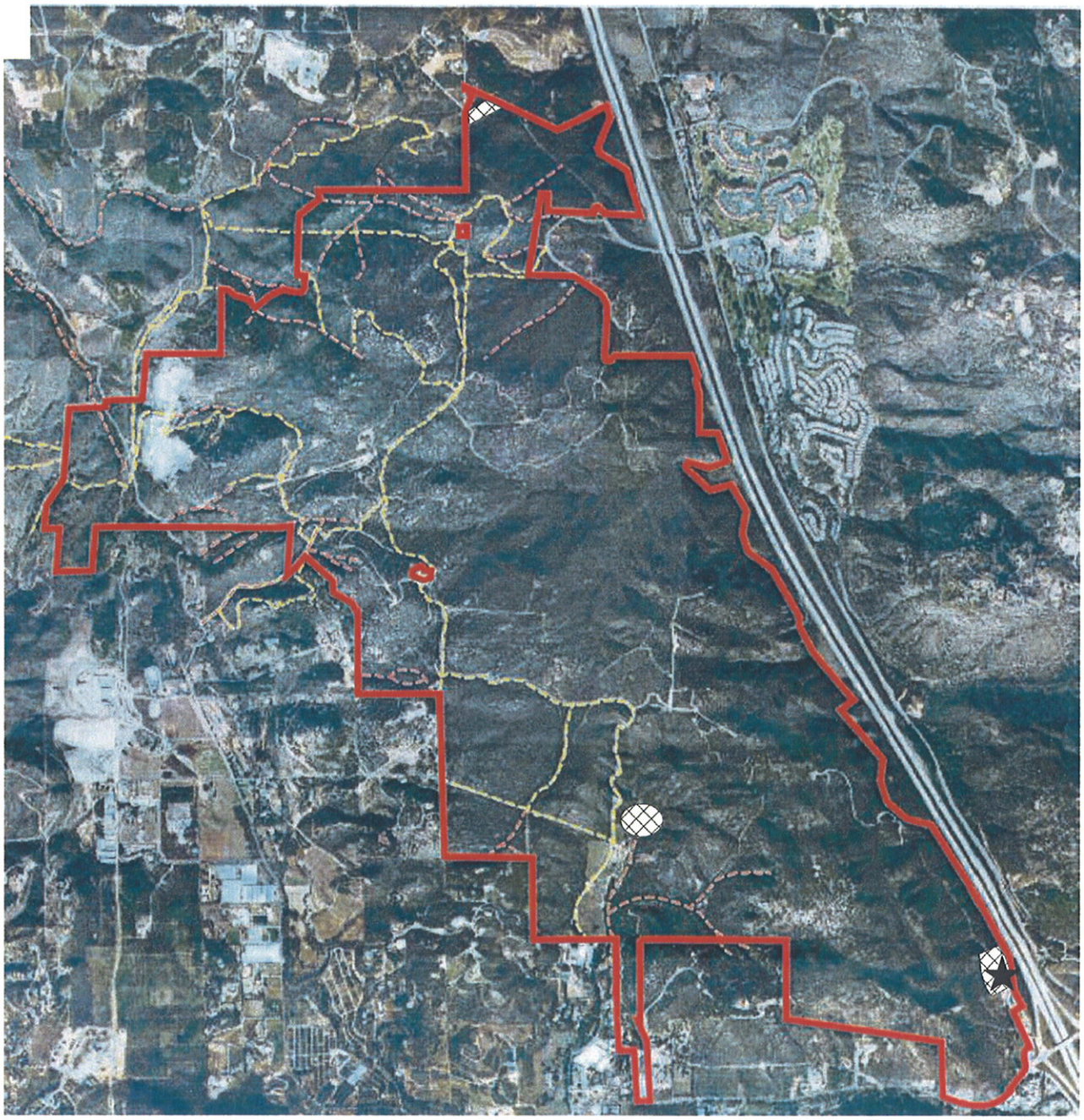
Common Name	Scientific Name
REPTILES	
Phrynosomatidae	
Western Fence Lizard	*Sceloporus occidentalis*
BIRDS	
Odontophoridae (New World Quail)	
California Quail	*Callipepla californica*
Columbidae (Pigeons and Doves)	
Mourning Dove	*Zenaida macroura*
Cuculidae (Cuckoos)	
Greater Roadrunner	*Geococcyx californianus*
Trochilidae (Hummingbirds)	
Anna's Hummingbird	*Calypte anna*
Tyrannidae (Tyrant Flycatchers)	
Ash-throated Flycatcher	*Myiarchus cinerascens*
Western Kingbird	*Tyrannus verticalis*
Vireonidae (Vireos)	
Warbling Vireo	*Vireo gilvus*
Corvidae (Jays, Crows, Ravens, Magpies)	
Western Scrub-Jay	*Aphelocoma californica*
Aegithalidae (Bushtits)	
Bushtit	*Psaltriparus minimus*
Troglodytidae (Wrens)	
Bewick's Wren	*Thryomanes bewickii*
Sylviidae (Old World Warblers, Gnatcatchers)	
Blue-gray Gnatcatcher	*Polioptila caerula*
Coastal California Gnatcatcher	*Polioptila californica californica*
Timaliidae (Wrentits)	
Wrentit	*Chamaea fasciata*
Mimidae (Mockingbirds and Thrashers)	
California Thrasher	*Toxostoma redivivum*
Sturnidae (Starlings)	
European Starling	*Sturnus vulgaris*
Parulidae (Wood Warblers)	
Orange-crowned Warbler	*Vermivora celata*

APPENDIX 1. LISTING OF ANIMALS OBSERVED OR DETECTED IN THE MERRIAM MOUNTAINS PROPERTY (CONTINUED)

Emberizidae (Towhees, Sparrows)	
Spotted Towhee	*Pipilo maculatus*
California Towhee	*Pipilo crissalis*
White-crowned Sparrow	*Zonotrichia leucophrys*
Cardinalidae (Cardinals, Grosbeaks, Buntings)	
Black-headed Grosbeak	*Pheucticus melanocephalus*
Fringillidae (Finches)	
House Finch	*Carpodacus mexicanus*
Lesser Goldfinch	*Carduelis psaltria*

MAMMALS

Leporidae (Rabbits and Hares)	
Desert Cottontail	*Sylvilagus audubonii*
Geomyidae (Pocket Gophers)	
Botta's Pocket Gopher	*Thomomys bottae*
Canidae (Foxes, Wolves, and Relatives)	
Coyote	*Canis latrans*



Project Boundary

Coastal California Gnatcatcher Survey Area

Coastal California Gnatcatcher Sighting - Male

Figure 2. Project Location, Merriam Mountains, North of Escondido,
San Diego County
San Marcos USGS 7.5' Quadrangle

N

Not to Scale

PSBS #T692E

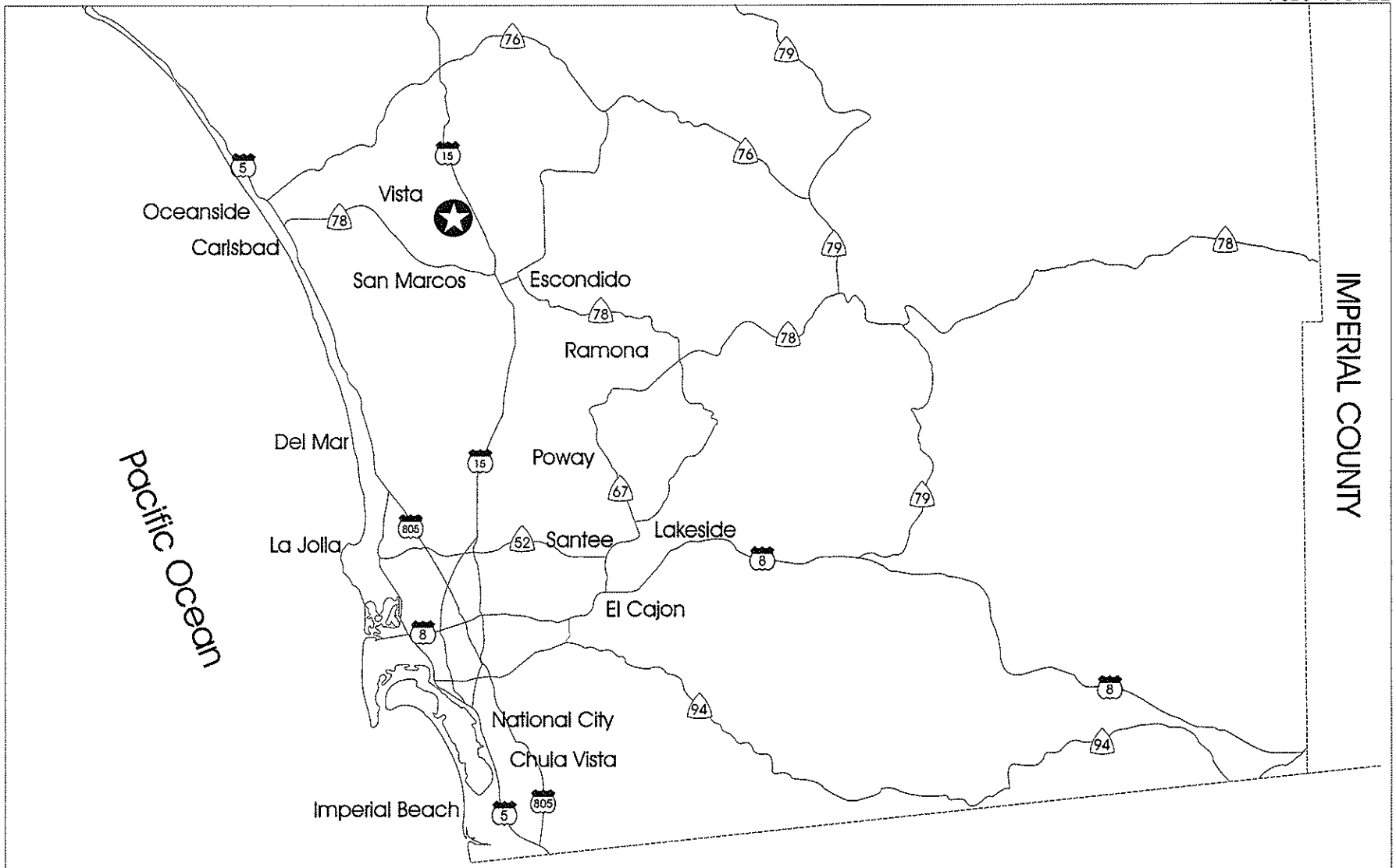
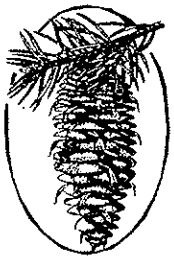


Figure 1. Project Vicinity, Merriam Mountain -

N

Pacific Southwest Biological Services, Inc.



MERRIAM MOUNTAINS,
UNINCORPORATED AREA NORTH OF ESCONDIDO
SAN DIEGO COUNTY, CALIFORNIA

COASTAL CALIFORNIA GNATCATCHER
(*Polioptila californica californica*)
SURVEY RESULTS

UTM: 11-S: 487,369mE; 3,674,300mN

Prepared for

Stonegate Development Company
Mr. Joseph Perring
27071 Cabot Road, Suite 106
Laguna Hills, CA 92653
Telephone: (949) 367-9400
Facsimile: (949) 367-9405

Prepared by

Pacific Southwest Biological Services, Inc.
Post Office Box 985
National City, CA 91951-0985
Telephone: (619) 477-5333
Facsimile: (619) 477-5380
E-mail: bio@psbs.com

PSBS #T692E

10 June 2004

Jason H. Kurnow, Staff Biologist
Permit #TE-077395-0 (expires 25 March 2007)

MERRIAM MOUNTAINS
UNINCORPORATED AREA NORTH OF ESCONDIDO
SAN DIEGO COUNTY, CALIFORNIA

COASTAL CALIFORNIA GNATCATCHER
(*Polioptila californica californica*)
SURVEY RESULTS

10 June 2004

SUMMARY

Pacific Southwest Biological Services, Inc., (Pacific Southwest) performed a presence/absence federal protocol survey for the Coastal California Gnatcatcher (*Polioptila californica californica*) (Gnatcatcher) on parts of the approximately 2319-acre Merriam Mountains site (site) located north of Escondido, San Diego County, California. The survey was performed by Pacific Southwest staff biologist Jason H. Kurnow under authority of U. S. Fish and Wildlife Service Endangered Species Permit #TE-077395-0 (expires 25 March 2007). The Gnatcatcher was detected on the property during the survey.

INTRODUCTION

PURPOSE OF THE STUDY

Pacific Southwest, at the request of Mr. Joseph Perring of Stonegate Development Company, conducted a protocol survey for the Gnatcatcher, a species listed as Threatened by the U. S. Fish and Wildlife Service (Service). The purpose of the survey was to determine presence/absence of this species on the site. It is anticipated that the information herein will be available for public agency review.

PROJECT LOCATION

The approximately 2319-acres site is located north of Escondido, San Diego County, California (Figures 1 and 2). The map location of the site is in Sections 5,11,12,13,14,19,23,24 and 30, Township 11 South, Ranges 2 and 3 West of the San Bernardino Base and Meridian of the U. S. Geological Survey 7.5' San Marcos, California, quadrangle (UTM: 11-S: 487,369mE; 3,674,300mN). Access to the site from U. S. Interstate Highway 15 (I-15) is west on Deer Springs Road.

PROJECT DESCRIPTION

The proposed project is anticipated to include pending application for a general plan amendment, specific plan and implementing tentative maps and permits to create residential and commercial development, with required roads, utilities, and other improvements. Present access to the site from I-15 is west on Deer Springs Road. The proposed project would not impact the entire site. A finalized project design has not been prepared for the project as of this date.

SURVEY METHODS AND DEFINITIONS

METHODS

Prior to the field survey, a search was made of the California Department of Fish and Game's (CDFG) California Natural Diversity Data Base (CNDDB) for the USGS 7.5' San Marcos, Valley Center, Bonsall and Pala, California quadrangles, as well as the County of San Diego draft MSCP (Multiple Species Conservation Program) resource maps pertaining to known Gnatcatcher locations. Also reviewed was a U.S. Geological Survey aerial photograph (1994) to aid in the determination of vegetation cover and site characteristics.

Biologist Jason H. Kurnow is authorized by the Service to perform protocol surveys. The Merriam Mountains Gnatcatcher survey was performed in accordance with the Service-approved "Coastal California Gnatcatcher Presence/Absence Survey Protocol" (July, 1997).

Methods for the survey consisted of walking slowly in areas of appropriate habitat watching and listening for wildlife, and observing indirect signs. "Pishing," a technique commonly used to attract the interest of passerines and draw them into view, was occasionally employed. A taped vocalization of the Gnatcatcher was occasionally played. Binoculars (8x42) were used to assist in the detection and identification of wildlife. The site is of such size that it could be surveyed in its entirety during each of the survey visits. Table 1 summarizes the dates, times, and field conditions during the survey.

Table 1. Summation of Field Conditions

DATE	PERSONNEL	TIME	CONDITIONS
23 April 04	Kurnow	0700-1030	Start: 60.0°F, 0% Cloud Cover, Calm Finish: 68.0°F, 0% Cloud Cover, 3-5mph
30 April 04	Kurnow	0730-1045	Start: 61.0°F, 0% Cloud Cover, Calm Finish: 70.0°F, 0% Cloud Cover, 3-4mph
7 May 04	Kurnow	0730-1100	Start: 64.0°F, 0%Cloud Cover, Calm Finish: 72.0°F, 0% Cloud Cover, Calm

SPECIES NOMENCLATURE

The scientific nomenclature used in this report is from the following standard references: vascular plants (Beauchamp 1986, Hickman 1993); vegetation communities (Holland 1986, Oberbauer 1996); birds (American Ornithologists' Union 1998); and mammals (Jameson and Peeters 1988, Ingles 1995).

SURVEY RESULTS

General Physiography of the Property

The topography of the entire site is characterized by a narrow chain of hills or low mountains, running north to south. These mountains originate near the northern end of the urban parts of the City of Escondido and continue some distance beyond the northern boundary of the property. The eastern edge of the mountains is limited by I-15; the western limit is Twin Oaks

Valley (although part of the ownership extends west of Twin Oaks Valley, not included in this survey). The property is located in the central portion of Merriam Mountains, west of I-15. The property contains steeply incised valleys, trending east to west, with flatter areas on some of the mountain summits. Large granodiorite outcroppings and pinnacles occur throughout the mountain range on the property.

The principal rock types of the property and the Merriam Mountains consist of Jurassic-Triassic Santiago Peak Metavolcanics in the northern portion and Mesozoic Granodiorite in the southern portion. Exposure of both rock types, but particularly the Granodiorite, has resulted in spectacular promontories on several of the minor peaks that cap the ridge of this small mountain range. The South Fork of Gopher Canyon area is mapped as Upper Jurassic marine formation. In the southern portion of the site, but largely off-site toward I-15, several cliff-like rock exposures are evident. The southern valley's geology involves alluvial material of recent origin. The soils of the site are associated with the underlying rocks and sediments and are mapped as Cieneba for 90% of the site, with Vista and Ramona series at the north and south end respectively. Placentia, Wyman and Las Posas soils are limited on the assemblage to the southeastern Deer Springs corner.

The elevation range of the project site ranges from 1,752 to 680 feet above mean sea level with several minor valleys with rather level contours. Land uses about the site are largely agricultural groves of avocados as well as some minor residential areas. An abandoned quarry operation lies at the northwestern site of the site where an avocado grove also occurs on one of the assembled parcels. An old aircraft landing strip has resulted in a level, yet rutted area in the north central region. Several dirt roads run about the site and several more occur suitable only for the several dirt bikes that use the site. A water system has been installed in part of the southern portion of the assemblage with two water tanks on the assemblage.

Habitats and Floral Species

Approximately 29.2 acres of the property supports the Coastal Form of Diegan Coastal Sage Scrub (Holland Code# 32510). This community is found in three distinct areas within the site which are: a section of the northern property boundary, near the southeastern property boundary and an area just north of the large Non-native Grassland located in the southern portion of the site (Figure 2). The Diegan Coastal Sage Scrub (DCSS) occurring on site ranges from a medium to low wildlife habitat value. Pictures of the site were taken (Attachment 1).

The dominant plant species occurring within the DCSS on-site is California Sagebrush (*Artemisia californica*) and Flat-top Buckwheat (*Eriogonum fasciculatum*). Other species comprising the on-site DCSS include Laurel Sumac (*Malosma laurina*) Bush Monkeyflower (*Mimulus aurantiacus*) and White Sage (*Salvia apiana*).

A majority of the remainder of the property is Southern Mixed Chaparral (Holland Code #37120). Coast Live Oak Woodland (Holland Code #71160), Non-native Grassland (Holland code #42200) and Southern Willow Scrub (Holland Code #63320) also exist on the site.

AVIAN SPECIES OBSERVED

Twenty-five species of birds were recorded on the project site during the surveys. A cumulative list is included as Appendix 1. The species observed during the surveys are typical of DCSS.

One male California Gnatcatcher was observed on the property during the surveys (Figure 2). The Gnatcatcher was located in the area of DCSS found near the southeastern property boundary (Figure 2). On 14 April 2004, prior to the initiation of this survey, this male (presumed because of the same sighting location) was seen carrying nesting material to a nearby female Gnatcatcher, observed in an unfinished nest. The approximate location of the nest was recorded by a hand-held GPS receiver, with the following location: UTM 11-S: 488,025 mE; 3,673,220 mN (NAD 27 projection, ±15 ft). In 2002 a pair of Gnatcatchers was sighted in the same general area. There is a high likelihood that this male is part of the pair located in 2002 (Allen 2002).

DISCUSSION

The variety birds observed on the project site were consistent with those typically expected in the observed habitats in the southern foothills of San Diego County within Coastal Sage Scrub.

The project site is generally within the known San Diego County distribution of the Gnatcatcher, although the species is generally less common so far inland from the coast. Gnatcatchers have been recorded from the general property area. The reasons for the Gnatcatcher's low abundance on the property in what appears to be appropriate habitat are not clear, but may include the relative steepness of the terrain (Gnatcatchers generally do not nest on slopes of greater than 30% [Atwood and Bolsinger 1992]), isolation of the DCSS on-site and/or the drought conditions of the property.

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APPENDIX 1. BIRDS OBSERVED OR DETECTED

COMMON NAME	SCIENTIFIC NAME
BIRDS	
Accipitridae (Hawks, Eagles, Harriers, Kites)	
Red-tailed Hawk	*Buteo jamaicensis*
Odontophoridae (New World Quail)	
California Quail	*Callipepla californica*
Columbidae (Pigeons and Doves)	
Mourning Dove	*Zenaida macroura*
Trochilidae (Hummingbirds)	
Anna's Hummingbird	*Calypte anna*
Tyrannidae (Tyrant Flycatchers)	
Black Phoebe	*Sayornis nigricans*
Ash-throated Flycatcher	*Myiarchus cinerascens*
Cassin's Kingbird	*Tyrannus vociferans*
Western Kingbird	*Tyrannus verticalis*
Corvidae (Jays, Crows, Ravens, Magpies)	
Western Scrub-Jay	*Aphelocoma californica*
Common Raven	*Corvus corax*
Aegithalidae (Bushtits)	
Bushtit	*Psaltriparus minimus*
Troglodytidae (Wrens)	
Bewick's Wren	*Thryomanes bewickii*
Sylviidae (Old World Warblers, Gnatcatchers)	
Blue-gray Gnatcatcher	*Polioptila caerula*
Coastal California Gnatcatcher	*Polioptila californica californica*
Timaliidae (Wrentits)	
Wrentit	*Chamaea fasciata*
Mimidae (Mockingbirds and Thrashers)	
California Thrasher	*Toxostoma redivivum*
Parulidae (Wood Warblers)	
Hermit Warbler	*Dendroica occidentalis*
Emberizidae (Towhees, Sparrows)	
Spotted Towhee	*Pipilo maculatus*
California Towhee	*Pipilo crissalis*
Song Sparrow	*Melospiza melodia*
White-crowned Sparrow	*Zonotrichia leucophrys*
Cardinalidae (Cardinals, Grosbeaks, Buntings)	
Lazuli Bunting	*Passerina amoena*
Icteridae (Blackbirds, Meadowlarks, Orioles)	
Hooded Oriole	*Icterus cucullatus*

APPENDIX 1. BIRDS OBSERVED OR DETECTED (CONTINUED)

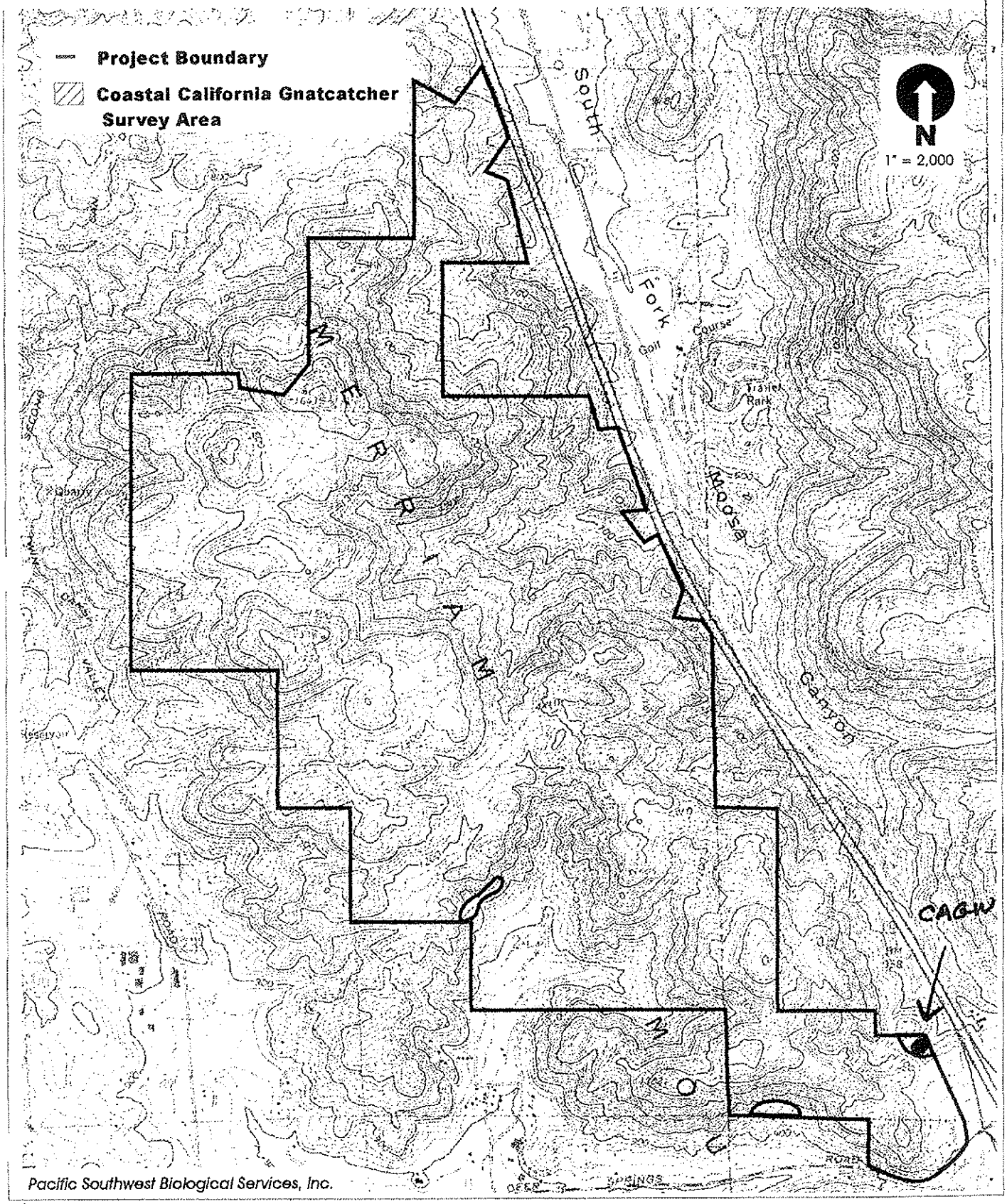
Fringillidae (Finches)	
House Finch	*Carpodacus mexicanus*
Lesser Goldfinch	*Carduelis psaltria*

Photo #1. View of the Diegan Coastal Sage Scrub located in the northern portion of the site.

Photo #2. View of the Diegan Coastal Sage Scrub located in the southeastern portion of the site.

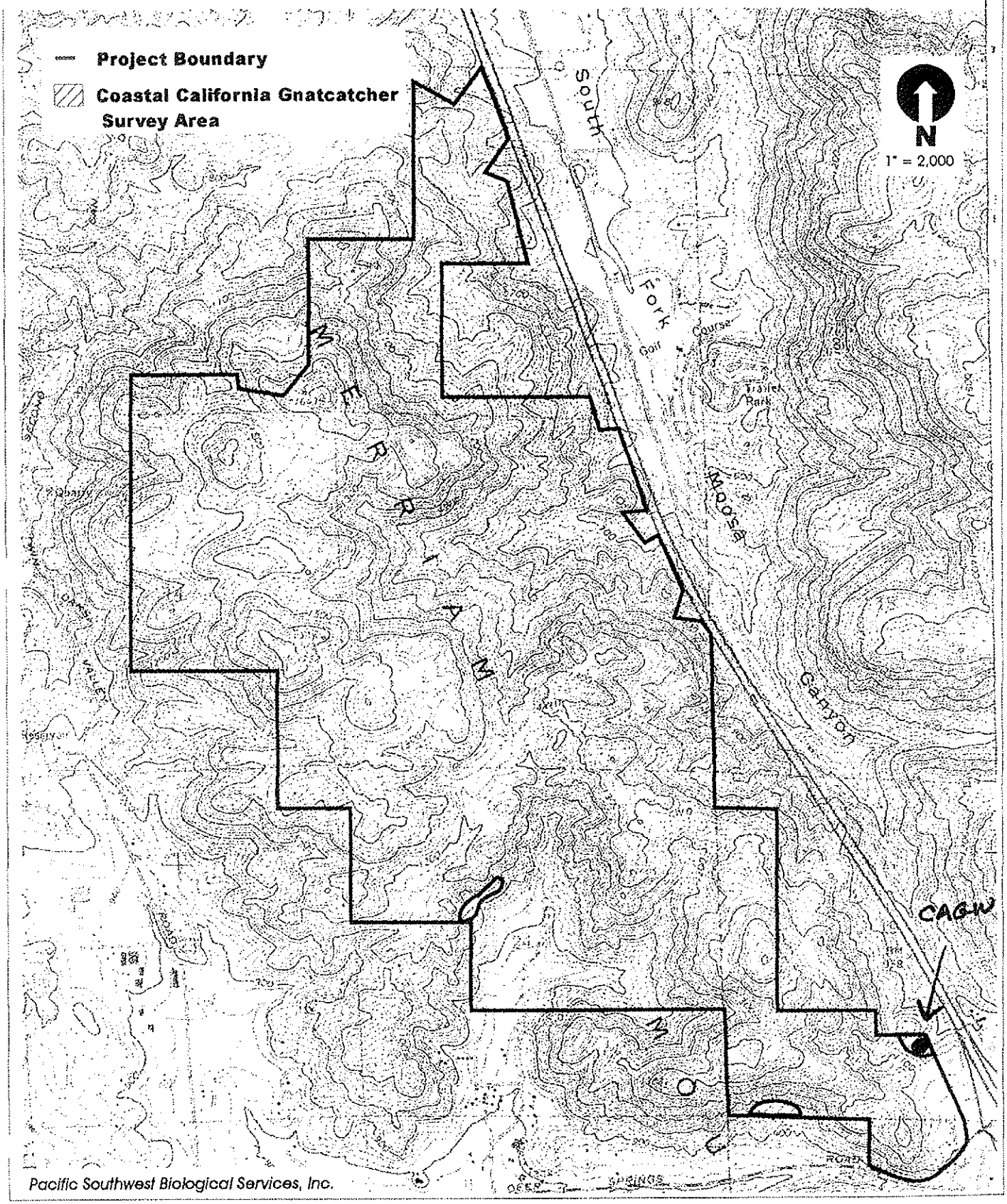
Photo #3. View of the Diegan Coastal Sage Scrub located north of the Non-native Grassland located in the southern portion of the site.

Figure 1. Project Location
USGS 7.5' San Marcos, CA Quadrangle

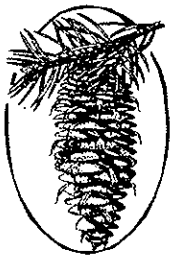


● - Gnatcatcher sighty - 1 pair

Figure 1. *Project Location*
USGS 7.5' San Marcos, CA Quadrangle



● - Gnatcatcher sighty - 1 pair



MERRIAM MOUNTAINS PARCELS
SAN DIEGO COUNTY, CALIFORNIA

COASTAL CALIFORNIA GNATCATCHER
(*Polioptla californica californica*)
SURVEY RESULTS

UTM: 11-S; 487,369mE, 3,674,300mN;

Prepared for:
Stonegate Development Company
Ana Lisa Armanino
27071 Cabot Road, Suite 106
Laguna Hills CA 92653
Telephone 949-367-9400
Facsimile 949-367-9405

Prepared by:
Pacific Southwest Biological Services, Inc.
Post Office Box 985
National City CA 91951-0985
Telephone 619-477-5333
Facsimile 619-477-5380
E-mail: bio@psbs.com

PSBS# T692C

2 July 2002

Douglas W. Allen
Permit TE-827448-2

MERRIAM MOUNTAINS PARCELS
SAN DIEGO COUNTY, CALIFORNIA

COASTAL CALIFORNIA GNATCATCHER
(*Polioptla californica californica*)
SURVEY RESULTS

2 July 2002

SUMMARY AND INTRODUCTION

A presence/absence survey for the Threatened California Gnatcatcher (*Polioptila californica californica*) (Gnatcatcher) was performed on appropriate habitat of the 1,977-acre Merriam Mountains parcel by the biological staff of Pacific Southwest Biological Services, Inc., (Pacific Southwest). This survey was carried out according the protocol for such surveys established by the U. S. Fish and Wildlife Service (USFWS1997). A majority of the Merriam Mountains parcel is covered in Southern Mixed Chaparral vegetation. Only approximately 40 acres of Diegan Coastal Sage Scrub occur on the property and is considered appropriate Gnatcatcher habitat. All habitats likely to be used or occupied by the Gnatcatcher were surveyed and two Gnatcatchers were detected in the southeast portion of the Merriam Mountains parcel during the survey (Figure 1). Two Gnatcatchers were observed in the same general area during a spring zoological survey conducted by Pacific Southwest in 2001.

SITE PHYSIOGRAPHY

The topography of the Merriam Mountains (Figure 1) consists of a narrow chain of hills or low mountains, running north to south. These mountains originate near the northern end of the urban parts of the City of Escondido and continue some distance beyond the northern boundary of the property. The eastern edge of the mountains is limited by U. S. Interstate Highway 15 (I-15), the western limit of the mountains is at Twin Oaks Valley. The property is located in the central portion of Merriam Mountains, west of I-15. The property contains steeply incised valleys, trending east to west, with flatter areas on some of the mountain summits. Large granodiorite outcroppings and pinnacles occur throughout the mountain range on the property.

The principal rock types of the property and the Merriam Mountains consist of Jurassic-Triassic Santiago Peak Metavolcanics in the northern portion and Mesozoic Granodiorite in the southern portion. Exposure of both rock types, but particularly the Granodiorite, has resulted in spectacular promontories on several of the minor peaks that cap the ridge of this small mountain range. The South Fork of Gopher Canyon area is mapped as Upper Jurassic marine formation. In the southern portion of the site, but largely off-site toward U. S. Interstate Highway 15 (I-15), several area of cliff-like rock exposures are evident. The southern valley's geology involves alluvial material of recent origin. The soils of the site are associated with the underlying rocks and sediments and are mapped as Cieneba for 90% of the site, with Vista and Ramona series at the north and south end respectively. Placentia, Wyman and Las Posas soils are limited on the assemblage to the southeastern Deer Springs corner.

The elevation range of the parcel assemblage ranges from 1,752 to 680 feet above mean sea level with several minor valleys with rather level contours. Land uses about the site are largely agricultural groves of avocados as well as some minor residential areas. An abandoned quarry operation lies at the northwestern site of the site where an avocado grove also occurs on one of the assembled parcels. An old aircraft landing strip has resulted in a level, yet rutted area in the north central region. Several dirt roads run about the site and several more occur suitable only for the several dirt bikes that use the site. A water system has been installed in part of the southern portion of the assemblage with two water tanks on the assemblage.

VEGETATION

The Merriam Mountains property contains representative vegetation associations and wildlife habitats common to north-central San Diego County. Most of the property is vegetated with undisturbed native plant associations involving Chaparral Coastal Sage Scrub, Willow Riparian Woodland and Southern Oak Woodland. Due to the low rainfall during the year 2001/2002 growing season, the survey areas are extremely dry. Only minor areas, including the roads about the site, reflect any disturbance. Nomenclature for vegetation is taken from Holland (1986) and Oberbauer (1996)

Southern Mixed Chaparral (#37120)

The parcel assemblage is largely covered by Southern Mixed Chaparral that varies from an almost pure "Chamisal" of Chamise (*Adenostoma fasciculatum*) to a Mountain-Mahogany-dominated type (*Cercocarpus minutiflorus*) in the deeper soil inner valleys. The indicators of the more widespread Southern Mixed Chaparral on the assemblage are: Chamise, Mission Manzanita (*Xylococcus bicolor*), Black Sage (*Salvia mellifera*) and Ramona Wild-lilac (*Ceanothus tomentosus*). The extent of exposure, soil depth and slope affect the extent of the diversity of the chaparral on the assemblage.

Diegan Coastal Sage Scrub (#32500)

Several relatively limited areas of the assemblage are covered with the open Diegan Sage Scrub vegetation. The most extensive occurs on the south-facing slopes of the southern valley. At the northwestern corner of the assemblage, those areas not cleared by the aqueduct or for the avocado groves have an association of California Sage Brush (*Artemisia californica*) and Flat-top Buckwheat (*Eriogonium fasciculatum*). The northern-most extension of the assemblage also has a Sage Scrub cover, but this appears to be due to prior clearing of the chaparral vegetation and should be better considered as successional Sage Scrub.

Coast Live Oak Woodland (#71160)

The Deer Springs area at the southeastern corner of the assemblage has a mature stand of Coast Live Oak (*Quercus agrifolia*) and Engelmann Oak (*Q. engelmannii*). The area was the site of a prior residence, so the understory is largely disturbed and recruitment or new growth of young trees has been arrested by the presence of the weedy understory. Coast Live Oaks also occur scattered about the site, especially as part of the chaparral vegetation on protected north-facing slopes, but the principal mapped unit of Oak Woodland lies only at this southeastern corner and the following site. The drainage that flows out of the southern valley has Riparian Oak Woodland that differs from the savannah-type Oak Woodland at the southern area.

Non-native Grassland (#42200)

The southern valley is an open field of non-native grasses and forbs, largely Ripgutgrass (*Bromus diandrus*). Wildlife agencies consider them valuable as foraging habitat for a variety of raptorial birds (hawks and eagles).

Southern Willow Scrub (#63320)

Scattered about the property are wetland-associated Southern Willow Scrub consisting largely of Black Willow (*Salix gooddingii*) and Arroyo Willow (*S. lasiolepis*). The largest extent of this vegetation on site is in the bottom of the eastern central canyon. As mentioned above, Southern Willow Scrub runs off the assemblage from the southern valley but this area is dominated by Coast Live Oaks. In the area of the old airstrip, wetland vegetation, largely willow woodland has become established due to the alteration by grading associated with the construction of the level airstrip. Riparian habitats of any kind are usually considered by wildlife agencies to have very high wildlife value for the cover, nesting habitat and food sources this habitat provides.

METHODS

As required by Service protocol guidelines, a pre-notification of Coastal California Gnatcatcher Survey for the project site was sent to the Service Carlsbad Field Office on 2 April 2002. The survey was carried out by Doug Allen, who is authorized to carry out such surveys under Department of the Interior Permit TE-827448-2. Field methods consisted of slowly walking through all potentially appropriate Gnatcatcher habitats and careful listening for all calls and songs. Additionally the surveyor, where appropriate, played recorded Gnatcatcher calls with a portable cassette tape recorder, and listened for responses. Identification was visually confirmed using 10X40 binoculars. All birds identified by call, song, or visual evidence were recorded in a field notebook. A list of faunal species observed is included in this report (Appendix 1). Due to weather conditions during the survey, only a portion of the parcel was survey during one visit and the remainder was survey later the same week. Table 1 lists the times and weather condition of the surveys. As required by the USFWS a copy of this report is being forwarded to the Carlsbad Field Office.

Table 1. Summary of Field Conditions

DATE	PERSONNEL	TIME	FIELD CONDITIONS
16 April 2002	Doug Allen	0700-1130	Start: 59.0°F, Clear, Calm Finish: 59.9°F, 100% Overcast, SW@ 5mph
14 May 2002	Doug Allen	0615-0730 (Southeastern portion only)	Start: 63.7°F, Clear, Calm Finish: 66.2°F, Clear, Calm
16 May 2002	Doug Allen	0615-0930 (Northern & central portion only)	Start: 55.0°F, 100% overcast, N/NE @ 2mph Finish: 61.1°F, Clear, Calm
23 May 2002	Doug Allen	0630-1230	Start: 62.8°F, Clear, Calm Finish: 78.2°F, Clear, Calm

RESULTS

AVIAN SPECIES OBSERVED

Twenty species of birds were recorded on the project site during the surveys. A cumulative list is attached to this report as Appendix 1. The species observed are typical of Diegan Coastal Sage Scrub. However, the total number of avian species would be higher if the entire property was surveyed including other habitat

Two California Gnatcatchers were detected on the property during the survey (Figure 1). In a zoological survey of the property in 2001, a pair of Gnatcatchers was sighted in the same general area. It is not known if this is the same pair. These were the only Gnatcatcher sightings during the three field visits.

DISCUSSION

The birds observed on the project site were consistent with those typically expected in the observed habitats in the southern foothills of San Diego County within Coastal Sage Scrub,

The project site is generally within the known San Diego County distribution of the Gnatcatcher, although the species is generally less common so far inland from the coast. Gnatcatchers have been recorded from the general property area. The reasons for the Gnatcatcher's low abundance on the property in what appears to be appropriate habitat are not clear, but may include the relative steepness of the terrain (Gnatcatchers generally do not nest on slopes of greater than 30% [Atwood and Bolsinger 1992] and/or the drought conditions of the property.

OTHER SENSITIVE SPECIES DETECTED

Three sensitive reptile species were observed on the property during the 2001 general zoological survey. These are the San Diego Horned Lizard (*Phrynosoma coronatum blainvillei*), Orangethroat Whiptail Lizard (*Cnemidophorus hyperythrus beldingi*) and the Red Diamond Rattlesnake (*Crotalus ruber ruber*). These three species are listed as Federal Species of Concern.

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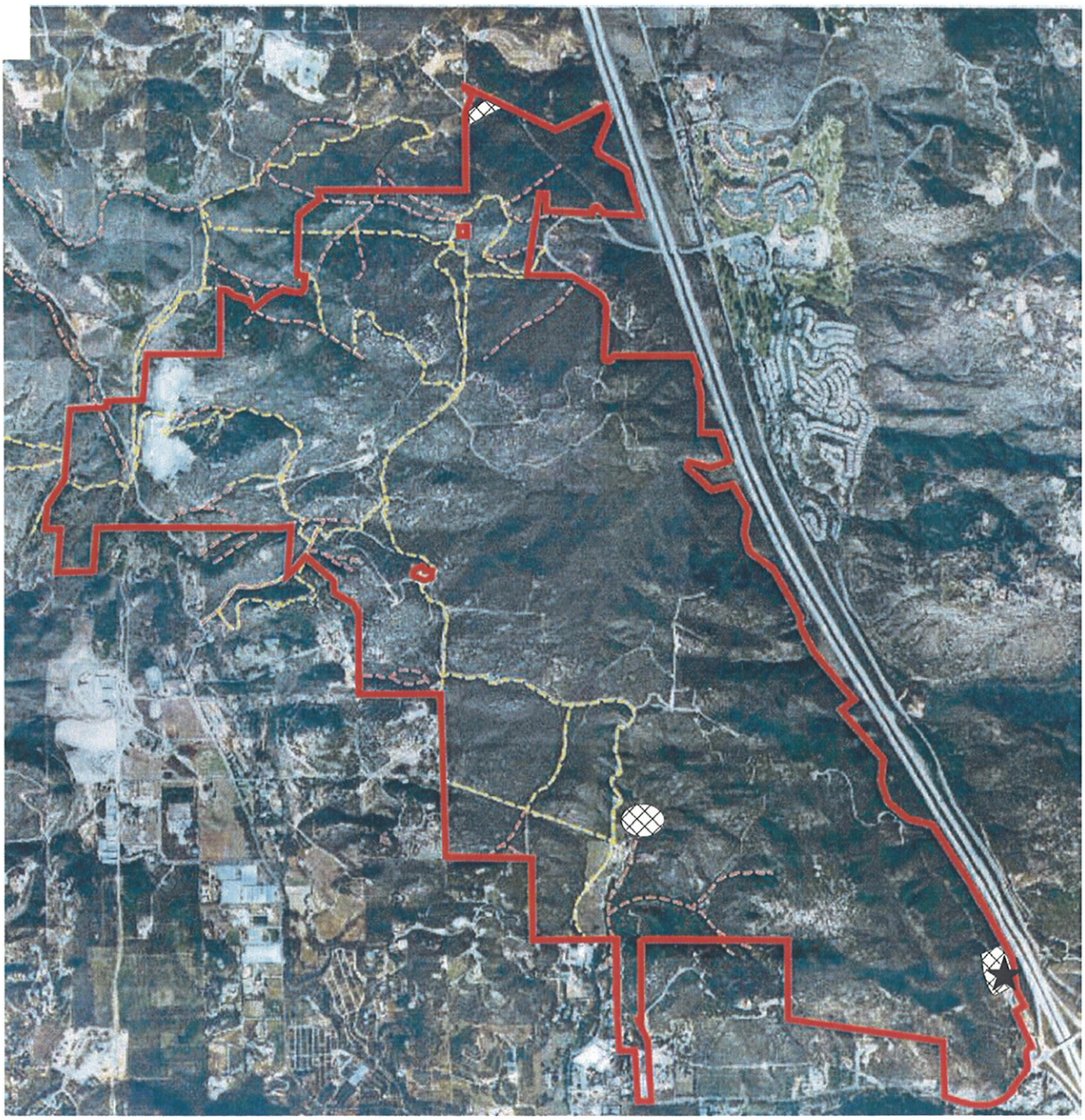
APPENDIX 1. LISTING OF ANIMALS OBSERVED OR DETECTED IN THE MERRIAM MOUNTAINS PROPERTY

Common Name	Scientific Name
REPTILES	
Phrynosomatidae	
Western Fence Lizard	*Sceloporus occidentalis*
BIRDS	
Odontophoridae (New World Quail)	
California Quail	*Callipepla californica*
Columbidae (Pigeons and Doves)	
Mourning Dove	*Zenaida macroura*
Cuculidae (Cuckoos)	
Greater Roadrunner	*Geococcyx californianus*
Trochilidae (Hummingbirds)	
Anna's Hummingbird	*Calypte anna*
Tyrannidae (Tyrant Flycatchers)	
Ash-throated Flycatcher	*Myiarchus cinerascens*
Western Kingbird	*Tyrannus verticalis*
Vireonidae (Vireos)	
Warbling Vireo	*Vireo gilvus*
Corvidae (Jays, Crows, Ravens, Magpies)	
Western Scrub-Jay	*Aphelocoma californica*
Aegithalidae (Bushtits)	
Bushtit	*Psaltriparus minimus*
Troglodytidae (Wrens)	
Bewick's Wren	*Thryomanes bewickii*
Sylviidae (Old World Warblers, Gnatcatchers)	
Blue-gray Gnatcatcher	*Polioptila caerula*
Coastal California Gnatcatcher	*Polioptila californica californica*
Timaliidae (Wrentits)	
Wrentit	*Chamaea fasciata*
Mimidae (Mockingbirds and Thrashers)	
California Thrasher	*Toxostoma redivivum*
Sturnidae (Starlings)	
European Starling	*Sturnus vulgaris*
Parulidae (Wood Warblers)	
Orange-crowned Warbler	*Vermivora celata*

APPENDIX 1. LISTING OF ANIMALS OBSERVED OR DETECTED IN THE MERRIAM MOUNTAINS PROPERTY (CONTINUED)

Emberizidae (Towhees, Sparrows)	
Spotted Towhee	*Pipilo maculatus*
California Towhee	*Pipilo crissalis*
White-crowned Sparrow	*Zonotrichia leucophrys*
Cardinalidae (Cardinals, Grosbeaks, Buntings)	
Black-headed Grosbeak	*Pheucticus melanocephalus*
Fringillidae (Finches)	
House Finch	*Carpodacus mexicanus*
Lesser Goldfinch	*Carduelis psaltria*
MAMMALS	
Leporidae (Rabbits and Hares)	
Desert Cottontail	*Sylvilagus audubonii*
Geomyidae (Pocket Gophers)	
Botta's Pocket Gopher	*Thomomys bottae*
Canidae (Foxes, Wolves, and Relatives)	
Coyote	*Canis latrans*



Project Boundary

Coastal California Gnatcatcher Survey Area

Coastal California Gnatcatcher Sighting - Male

Figure 2. Project Location, Merriam Mountains, North of Escondido,
San Diego County
San Marcos USGS 7.5' Quadrangle

N

Not to Scale

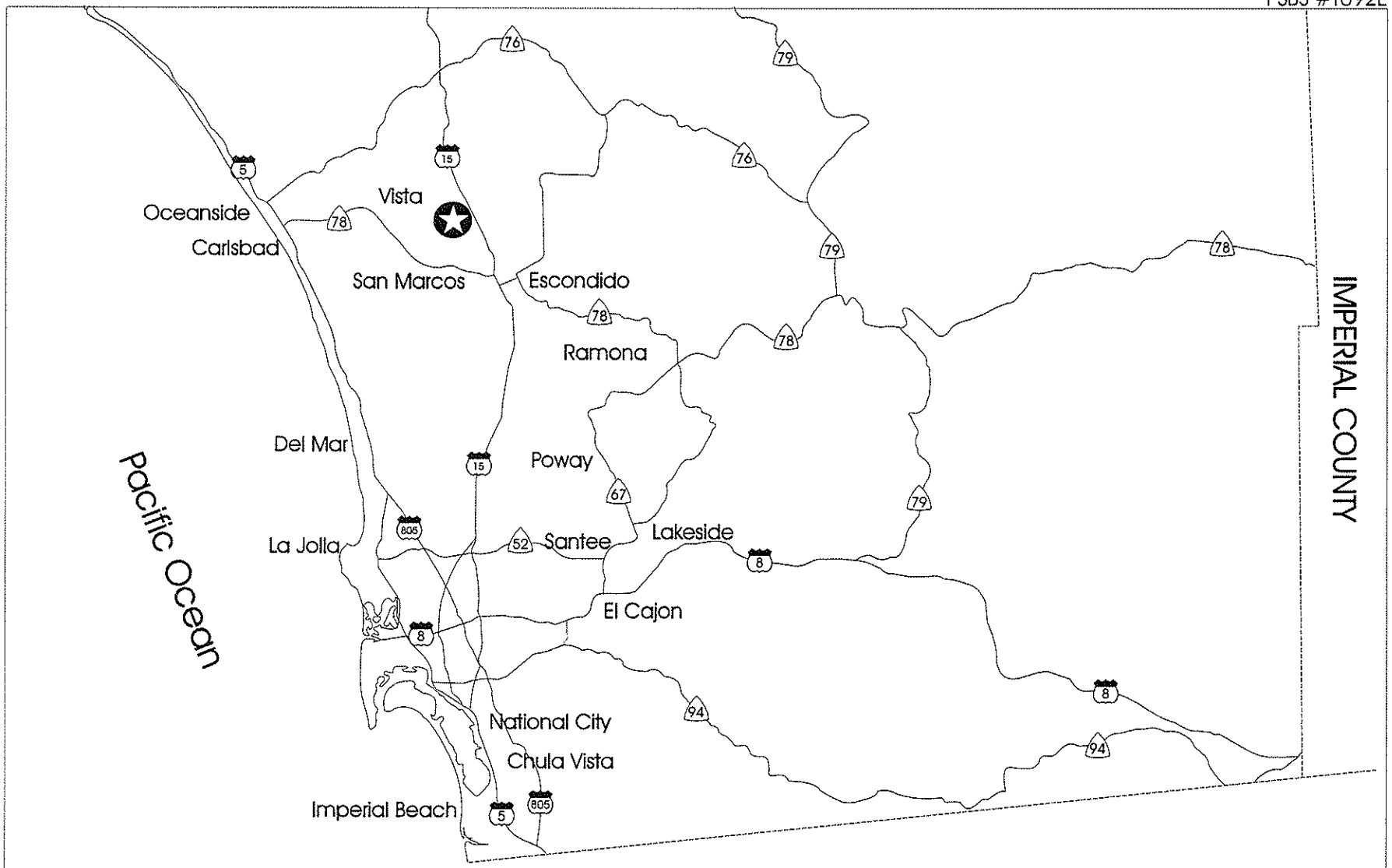


Figure 1. Project Vicinity, Merriam Mountain -

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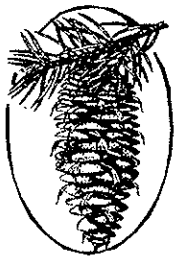
Pacific Southwest Biological Services, Inc.



MERRIAM MOUNTAINS,
UNINCORPORATED AREA NORTH OF ESCONDIDO
SAN DIEGO COUNTY, CALIFORNIA

COASTAL CALIFORNIA GNATCATCHER
(*Polioptila californica californica*)
SURVEY RESULTS

UTM: 11-S: 487,369mE; 3,674,300mN

Prepared for

Stonegate Development Company
Mr. Joseph Perring
27071 Cabot Road, Suite 106
Laguna Hills, CA 92653
Telephone: (949) 367-9400
Facsimile: (949) 367-9405

Prepared by

Pacific Southwest Biological Services, Inc.
Post Office Box 985
National City, CA 91951-0985
Telephone: (619) 477-5333
Facsimile: (619) 477-5380
E-mail: bio@psbs.com

PSBS #T692E

10 June 2004

Jason H. Kurnow, Staff Biologist
Permit #TE-077395-0 (expires 25 March 2007)

MERRIAM MOUNTAINS
UNINCORPORATED AREA NORTH OF ESCONDIDO
SAN DIEGO COUNTY, CALIFORNIA

COASTAL CALIFORNIA GNATCATCHER
(*Polioptila californica californica*)
SURVEY RESULTS

10 June 2004

SUMMARY

Pacific Southwest Biological Services, Inc., (Pacific Southwest) performed a presence/absence federal protocol survey for the Coastal California Gnatcatcher (*Polioptila californica californica*) (Gnatcatcher) on parts of the approximately 2319-acre Merriam Mountains site (site) located north of Escondido, San Diego County, California. The survey was performed by Pacific Southwest staff biologist Jason H. Kurnow under authority of U. S. Fish and Wildlife Service Endangered Species Permit #TE-077395-0 (expires 25 March 2007). The Gnatcatcher was detected on the property during the survey.

INTRODUCTION

PURPOSE OF THE STUDY

Pacific Southwest, at the request of Mr. Joseph Perring of Stonegate Development Company, conducted a protocol survey for the Gnatcatcher, a species listed as Threatened by the U. S. Fish and Wildlife Service (Service). The purpose of the survey was to determine presence/absence of this species on the site. It is anticipated that the information herein will be available for public agency review.

PROJECT LOCATION

The approximately 2319-acres site is located north of Escondido, San Diego County, California (Figures 1 and 2). The map location of the site is in Sections 5,11,12,13,14,19,23,24 and 30, Township 11 South, Ranges 2 and 3 West of the San Bernardino Base and Meridian of the U. S. Geological Survey 7.5' San Marcos, California, quadrangle (UTM: 11-S: 487,369mE; 3,674,300mN). Access to the site from U. S. Interstate Highway 15 (I-15) is west on Deer Springs Road.

PROJECT DESCRIPTION

The proposed project is anticipated to include pending application for a general plan amendment, specific plan and implementing tentative maps and permits to create residential and commercial development, with required roads, utilities, and other improvements. Present access to the site from I-15 is west on Deer Springs Road. The proposed project would not impact the entire site. A finalized project design has not been prepared for the project as of this date.

SURVEY METHODS AND DEFINITIONS

METHODS

Prior to the field survey, a search was made of the California Department of Fish and Game's (CDFG) California Natural Diversity Data Base (CNDDB) for the USGS 7.5' San Marcos, Valley Center, Bonsall and Pala, California quadrangles, as well as the County of San Diego draft MSCP (Multiple Species Conservation Program) resource maps pertaining to known Gnatcatcher locations. Also reviewed was a U.S. Geological Survey aerial photograph (1994) to aid in the determination of vegetation cover and site characteristics.

Biologist Jason H. Kurnow is authorized by the Service to perform protocol surveys. The Merriam Mountains Gnatcatcher survey was performed in accordance with the Service-approved "Coastal California Gnatcatcher Presence/Absence Survey Protocol" (July, 1997).

Methods for the survey consisted of walking slowly in areas of appropriate habitat watching and listening for wildlife, and observing indirect signs. "Pishing," a technique commonly used to attract the interest of passerines and draw them into view, was occasionally employed. A taped vocalization of the Gnatcatcher was occasionally played. Binoculars (8x42) were used to assist in the detection and identification of wildlife. The site is of such size that it could be surveyed in its entirety during each of the survey visits. Table 1 summarizes the dates, times, and field conditions during the survey.

Table 1. Summation of Field Conditions

DATE	PERSONNEL	TIME	CONDITIONS
23 April 04	Kurnow	0700-1030	Start: 60.0°F, 0% Cloud Cover, Calm Finish: 68.0°F, 0% Cloud Cover, 3-5mph
30 April 04	Kurnow	0730-1045	Start: 61.0°F, 0% Cloud Cover, Calm Finish: 70.0°F, 0% Cloud Cover, 3-4mph
7 May 04	Kurnow	0730-1100	Start: 64.0°F, 0%Cloud Cover, Calm Finish: 72.0°F, 0% Cloud Cover, Calm

SPECIES NOMENCLATURE

The scientific nomenclature used in this report is from the following standard references: vascular plants (Beauchamp 1986, Hickman 1993); vegetation communities (Holland 1986, Oberbauer 1996); birds (American Ornithologists' Union 1998); and mammals (Jameson and Peeters 1988, Ingles 1995).

SURVEY RESULTS

General Physiography of the Property

The topography of the entire site is characterized by a narrow chain of hills or low mountains, running north to south. These mountains originate near the northern end of the urban parts of the City of Escondido and continue some distance beyond the northern boundary of the property. The eastern edge of the mountains is limited by I-15; the western limit is Twin Oaks

Valley (although part of the ownership extends west of Twin Oaks Valley, not included in this survey). The property is located in the central portion of Merriam Mountains, west of I-15. The property contains steeply incised valleys, trending east to west, with flatter areas on some of the mountain summits. Large granodiorite outcroppings and pinnacles occur throughout the mountain range on the property.

The principal rock types of the property and the Merriam Mountains consist of Jurassic-Triassic Santiago Peak Metavolcanics in the northern portion and Mesozoic Granodiorite in the southern portion. Exposure of both rock types, but particularly the Granodiorite, has resulted in spectacular promontories on several of the minor peaks that cap the ridge of this small mountain range. The South Fork of Gopher Canyon area is mapped as Upper Jurassic marine formation. In the southern portion of the site, but largely off-site toward I-15, several cliff-like rock exposures are evident. The southern valley's geology involves alluvial material of recent origin. The soils of the site are associated with the underlying rocks and sediments and are mapped as Cieneba for 90% of the site, with Vista and Ramona series at the north and south end respectively. Placentia, Wyman and Las Posas soils are limited on the assemblage to the southeastern Deer Springs corner.

The elevation range of the project site ranges from 1,752 to 680 feet above mean sea level with several minor valleys with rather level contours. Land uses about the site are largely agricultural groves of avocados as well as some minor residential areas. An abandoned quarry operation lies at the northwestern site of the site where an avocado grove also occurs on one of the assembled parcels. An old aircraft landing strip has resulted in a level, yet rutted area in the north central region. Several dirt roads run about the site and several more occur suitable only for the several dirt bikes that use the site. A water system has been installed in part of the southern portion of the assemblage with two water tanks on the assemblage.

Habitats and Floral Species

Approximately 29.2 acres of the property supports the Coastal Form of Diegan Coastal Sage Scrub (Holland Code# 32510). This community is found in three distinct areas within the site which are: a section of the northern property boundary, near the southeastern property boundary and an area just north of the large Non-native Grassland located in the southern portion of the site (Figure 2). The Diegan Coastal Sage Scrub (DCSS) occurring on site ranges from a medium to low wildlife habitat value. Pictures of the site were taken (Attachment 1).

The dominant plant species occurring within the DCSS on-site is California Sagebrush (*Artemisia californica*) and Flat-top Buckwheat (*Eriogonum fasciculatum*). Other species comprising the on-site DCSS include Laurel Sumac (*Malosma laurina*) Bush Monkeyflower (*Mimulus aurantiacus*) and White Sage (*Salvia apiana*).

A majority of the remainder of the property is Southern Mixed Chaparral (Holland Code #37120). Coast Live Oak Woodland (Holland Code #71160), Non-native Grassland (Holland code #42200) and Southern Willow Scrub (Holland Code #63320) also exist on the site.

AVIAN SPECIES OBSERVED

Twenty-five species of birds were recorded on the project site during the surveys. A cumulative list is included as Appendix 1. The species observed during the surveys are typical of DCSS.

One male California Gnatcatcher was observed on the property during the surveys (Figure 2). The Gnatcatcher was located in the area of DCSS found near the southeastern property boundary (Figure 2). On 14 April 2004, prior to the initiation of this survey, this male (presumed because of the same sighting location) was seen carrying nesting material to a nearby female Gnatcatcher, observed in an unfinished nest. The approximate location of the nest was recorded by a hand-held GPS receiver, with the following location: UTM 11-S: 488,025 mE; 3,673,220 mN (NAD 27 projection, ±15 ft). In 2002 a pair of Gnatcatchers was sighted in the same general area. There is a high likelihood that this male is part of the pair located in 2002 (Allen 2002).

DISCUSSION

The variety birds observed on the project site were consistent with those typically expected in the observed habitats in the southern foothills of San Diego County within Coastal Sage Scrub.

The project site is generally within the known San Diego County distribution of the Gnatcatcher, although the species is generally less common so far inland from the coast. Gnatcatchers have been recorded from the general property area. The reasons for the Gnatcatcher's low abundance on the property in what appears to be appropriate habitat are not clear, but may include the relative steepness of the terrain (Gnatcatchers generally do not nest on slopes of greater than 30% [Atwood and Bolsinger 1992]), isolation of the DCSS on-site and/or the drought conditions of the property.

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APPENDIX 1. BIRDS OBSERVED OR DETECTED

COMMON NAME	SCIENTIFIC NAME
BIRDS	
Accipitridae (Hawks, Eagles, Harriers, Kites)	
Red-tailed Hawk	*Buteo jamaicensis*
Odontophoridae (New World Quail)	
California Quail	*Callipepla californica*
Columbidae (Pigeons and Doves)	
Mourning Dove	*Zenaida macroura*
Trochilidae (Hummingbirds)	
Anna's Hummingbird	*Calypte anna*
Tyrannidae (Tyrant Flycatchers)	
Black Phoebe	*Sayornis nigricans*
Ash-throated Flycatcher	*Myiarchus cinerascens*
Cassin's Kingbird	*Tyrannus vociferans*
Western Kingbird	*Tyrannus verticalis*
Corvidae (Jays, Crows, Ravens, Magpies)	
Western Scrub-Jay	*Aphelocoma californica*
Common Raven	*Corvus corax*
Aegithalidae (Bushtits)	
Bushtit	*Psaltriparus minimus*
Troglodytidae (Wrens)	
Bewick's Wren	*Thryomanes bewickii*
Sylviidae (Old World Warblers, Gnatcatchers)	
Blue-gray Gnatcatcher	*Polioptila caerula*
Coastal California Gnatcatcher	*Polioptila californica californica*
Timaliidae (Wrentits)	
Wrentit	*Chamaea fasciata*
Mimidae (Mockingbirds and Thrashers)	
California Thrasher	*Toxostoma redivivum*
Parulidae (Wood Warblers)	
Hermit Warbler	*Dendroica occidentalis*
Emberizidae (Towhees, Sparrows)	
Spotted Towhee	*Pipilo maculatus*
California Towhee	*Pipilo crissalis*
Song Sparrow	*Melospiza melodia*
White-crowned Sparrow	*Zonotrichia leucophrys*
Cardinalidae (Cardinals, Grosbeaks, Buntings)	
Lazuli Bunting	*Passerina amoena*
Icteridae (Blackbirds, Meadowlarks, Orioles)	
Hooded Oriole	*Icterus cucullatus*

APPENDIX 1. BIRDS OBSERVED OR DETECTED (CONTINUED)

Fringillidae (Finches)	
House Finch	*Carpodacus mexicanus*
Lesser Goldfinch	*Carduelis psaltria*

Photo #1. View of the Diegan Coastal Sage Scrub located in the northern portion of the site.

Photo #2. View of the Diegan Coastal Sage Scrub located in the southeastern portion of the site.

Photo #3. View of the Diegan Coastal Sage Scrub located north of the Non-native Grassland located in the southern portion of the site.